



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

May 2, 2005

U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

ATTN: Mr. Bill Biddlecome
NCDOT Coordinator

Subject: Nationwide Permits 27, 33, and CAMA Major Development Permit Application for the proposed Campbell Creek Wetland Mitigation Site, Beaufort County, near Tetterton Rd SR 1963, WBS Element 34440.4.1.

Dear Sir:

Enclosed for your consideration and approval is the Pre-Construction Notification for the U.S. Army Corps of Engineers Nationwide Permit 27, Nationwide Permit 33, and the CAMA Major Development Permit Application for the proposed Campbell Creek wetland mitigation project. WBS Element 34440.4.1 will be debited for \$400.00 for the application fee for the above referenced project. Also enclosed is a copy of the Campbell Creek Wetland Mitigation Plan and associated Plan Sheets and green card for your reference in reviewing the application. The purpose of the Campbell Creek Wetland Mitigation Project is to provide compensatory mitigation for the North Carolina Department of Transportation's Tetterton Road project (SR 1963) (CAMA Permit Number 42-03), as well as other permitted projects in the Tar-Pamlico River Basin. Total impacts for the Tetterton Road project were 4,090 square feet (0.09 acres) of coastal wetlands and 2,273 square feet (0.05 acres) of 404 wetlands.

IMPACTS TO WATERS OF THE UNITED STATES

Permanent Impacts: Proposed impacts to USACE jurisdictional wetlands consist of 0.035 ac resulting from excavation. Proposed impacts to NCDOT jurisdictional wetlands consist of 0.063 ac resulting from excavation. This excavation is necessary to provide hydraulic connectivity to the new created wetlands

Temporary Impacts: 0.014 acre of temporary impacts are anticipated to due to temporary fill in an intermittent stream due to the need for access to a portion of the mitigation site. One 24"

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

corrugated aluminum pipe, 25 ft in length will be used at this location. The pipe and any associated fill will be removed once construction of the site is completed.

TAR-PAMLICO RIPARIAN BUFFER RULES

This project is located in the Tar-Pamlico River Basin (subbasin 03-03-07, 03020104), therefore the Tar-Pamlico River Buffer Rules (15A NCAC 02B .0255) apply. The intermittent stream that will be temporarily impacted by the proposed project does not appear on either the most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture or the most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the USGS. Therefore, written authorization for a Buffer Certification from the Division of Water Quality is not required.

FEDERALLY-PROTECTED SPECIES

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered, and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1952, as amended. As of February 25, 2003, the U.S. Fish and Wildlife Service (USFWS) lists seven federally protected species for Beaufort County (Table 1). Biological Conclusions of "No Effect" were previously rendered for the red-cockaded woodpecker, Kemp's ridley sea turtle, West Indian Manatee, red wolf, Rough-leaved loosestrife, and sensitive jointvetch. These biological conclusions remain valid. A Biological Conclusion of "May Affect, Not Likely to Adversely Affect" was rendered for the bald eagle. A letter was sent to the USFWS on February 9, 2005 requesting concurrence for the bald eagle.

Table 1. Federally-protected species of Beaufort County.

Scientific Name	Common Name	Federal Status	Biological Conclusion
<i>Picoides borealis</i>	Red-cockaded woodpecker	Endangered	No Effect
<i>Haliaeetus leucocephalus</i>	Bald eagle	Threatened	May Affect, Not Likely to Adversely Affect
<i>Lepidochelys kempii</i>	Kemp's ridley sea turtle	Endangered	No Effect
<i>Trichechus manatus</i>	West Indian Manatee	Endangered	No Effect
<i>Canis rufus</i>	Red wolf	Experimental	No Effect
<i>Lysimachia asperulaefolia</i>	Rough-leaved loosestrife	Endangered	No Effect
<i>Aeschynomene virginica</i>	Sensitive jointvetch	Threatened	No Effect

REGULATORY APPROVALS

Section 404 Permit: It is anticipated that the temporary pipe crossing the unnamed tributary to Campbell Creek will be authorized under Section 404 Nationwide Permit 33 (Temporary Construction Access and Dewatering). It is also anticipated the all other proposed activities

associated with this project will be authorized under a Section 404 Nationwide Permit 27 (Wetland and Riparian Restoration and Creation). We are, therefore, requesting the issuance of a Nationwide Permit 33 and Nationwide Permit 27.

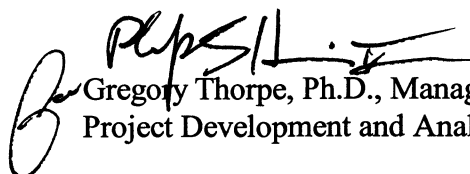
Section 401 Permit: We anticipate 401 General Certifications numbers 3495 and 3366 will apply to this project. In accordance with 15A NCAC 02H .0501(a) we are providing seven copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their records.

CAMA Permit: A CAMA Major Development Permit application is being submitted under separate cover to the N.C. Division of Coastal Management.

Total impacts for the Tetterton Road project were 4,090 square feet (0.09 acres) of coastal wetlands and 2,273 square feet (0.05 acres) of 404 wetlands. The USACE did not require mitigation for impacts to 404 wetlands. The mitigation project is comprised of two separate properties totaling 39.7 acres. The attached mitigation plan identifies 5.7 acres of proposed wetland creation, 28.5 acres of proposed wetland preservation and 5.5 acres of proposed upland preservation. This will provide mitigation for the 0.09 acres of impacted coastal wetland with the remaining mitigation available for other projects.

If you have any questions or need additional information, please contact Chris Rivenbark at crivenbark@dot.state.nc.us or (919) 715-1460. A copy of this permit application will be posted on the DOT website at: <http://www.ncdot.org/planning/pe/naturalunit/Permit.html>.

Sincerely,



Gregory Thorpe, Ph.D., Manager
Project Development and Analysis

W/attachment

Mr. John Hennessy, NCDWQ (7 copies)

Mr. Travis Wilson, NCWRC

Mr. Gary Jordan, USFWS

Mr. Ron Sechler, NMFS

Mr. Michael Street, NCDMF

Mr. Cathy Brittingham, NCDCM

Mr. Bill Arrington, NCDCM

Mr. David Chang, P.E., Hydraulics

Mr. Greg Perfetti, P.E., Structure Design

Mr. Mark Staley, Roadside Environmental

Mr. C. E. Lassiter, P.E. Division 2 Engineer

Mr. Jay Johnson, DEO Division 2

W/o attachment

Mr. David Franklin, USACE, Wilmington (Cover Letter Only)

Mr. Jay Bennett, P.E., Roadway Design

Mr. Omar Sultan, Programming and TIP

Mr. Art McMillan, P.E., Highway Design



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May 2, 2005

N. C. Dept. of Environment and Natural Resources
Division of Coastal Management
151-B NC Highway 24
Hestron Plaza II
Morehead City, NC 28557

ATTN: Mr. Bill Arrington

Subject: CAMA Major Development Permit Application and Nationwide Permits 27 and 33 for the proposed Campbell Creek Wetland Mitigation Site, Beaufort County, near Tetterton Rd SR 1963, WBS Element 34440.4.1.

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REGULATORY APPROVALS


CAMA Permit: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Development Permit. The landowner receipt is attached. NCDOT has

also applied for the issuance of a United States Army Corps of Engineers NWP 27, NWP 33 and appropriate 401 Water Quality Certifications under separate cover.

Total impacts for the Tetterton Road project were 4,090 square feet (0.09 acres) of coastal wetlands and 2,273 square feet (0.05 acres) of 404 wetlands. The USACE did not require mitigation for impacts to 404 wetlands. The mitigation project is comprised of two separate properties totaling 39.7 acres. The attached mitigation plan identifies 5.7 acres of proposed wetland creation, 28.5 acres of proposed wetland preservation and 5.5 acres of proposed upland preservation. This will provide mitigation for the 0.09 acres of impacted coastal wetland with the remaining mitigation available for other projects.

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Gregory Thorpe, Ph.D., Manager
Project Development and Analysis

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Office Use Only:

Form Version May 2002

USACE Action ID No. _____ DWQ No. _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:

☒ Section 404 Permit☐

Riparian or Watershed Buffer Rules

☐ Section 10 Permit☐

Isolated Wetland Permit from DWQ

☒ 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested:
- NWP 27, NWP 33

3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:
- ☐

4. If payment into the North Carolina Wetlands Restoration Program (NCWRP) is proposed for mitigation of impacts (verify availability with NCWRP prior to submittal of PCN), complete section VIII and check here:
- ☐

5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:
- ☒

II. Applicant Information

1. Owner/Applicant Information

Name: North Carolina Department of TransportationMailing Address: Project Development and Environmental Analysis Branch1548 Mail Service CenterRaleigh, NC 27699-1548Telephone Number: (919)733-3141 Fax Number: (919) 733-9794E-mail Address: gthorpe@dot.state.nc.us (Gregory Thorpe, PhD.)

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: _____

Company Affiliation: _____

Mailing Address: _____

Telephone Number: _____

Fax Number: _____

E-mail Address: _____

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: **Campbell Creek Wetland Mitigation Site**
2. T.I.P. Project Number or State Project Number (NCDOT Only): R-2510WM
3. Property Identification Number (Tax PIN): **6597-10-0215, 6596-08-9760**
4. Location
County: **Beaufort** Nearest Town: **Aurora**
Subdivision name (include phase/lot number): _____
Directions to site (include road numbers, landmarks, etc.): **Take US-64/US-264 E to US-17. Turn right onto US-17 and follow to NC-33. Veer left onto Tetterton Road. Tetterton Rd crosses Pot Gut, NC-33 crosses Campbell Creek.**
5. Site coordinates, if available (UTM or Lat/Long): **+35.29545 Lat/ -76.68445 Long.**
(Note – If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
6. Property size (acres): **Work area totals approximately 39.7 acres.**
7. Nearest body of water (stream/river/sound/ocean/lake): **Campbell Creek**
8. River Basin: **Tar - Pamlico**
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: **Activities on the project properties include agriculture,**

residential use, and timber harvesting. The project sites themselves have had little active use with the exception of timber harvesting as they are either existing wetlands or adjacent to wetlands, which restricts many activities. Both properties have been ditched in an effort to improve drainage.

10. Describe the overall project in detail, including the type of equipment to be used: _____
Site will be restored for the purposes of providing compensatory wetland mitigation as described in the attached Campbell Creek Wetland Mitigation Plan. Work to be conducted with dozers, track-hoes, and other equipment typically used for restoration projects.

11. Explain the purpose of the proposed work: _____
Perform compensatory mitigation by creating 2.8 acres of Tidal Freshwater Marsh and 2.9 acres of Brackish Marsh as well as preserving 19.3 acres of Brackish Marsh and, 9.2 acres of Tidal Freshwater Marsh.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules.

CAMA permit number 42-03 for SR 1963 (Tetterton Road) from SR 1904 to SR 1901, 5 miles east of Aurora, Beaufort County

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

N/A

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. The applicant must also provide justification for these impacts in Section VII below. All proposed impacts, permanent and temporary, must be listed herein, and must be clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) must be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream

mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: **Impacts to onsite wetlands will be done for restoration purposes. Temporary Fill in an intermittent streams are necessary for access to a portion of the proposed restoration area.**

2. Individually list wetland impacts below:

Wetland Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Located within 100-year Floodplain** (yes/no)	Distance to Nearest Stream (linear feet)	Type of Wetland***
Campbell Creek North Parcel	Excavation	.014	yes	200-300'	Freshwater
Campbell Creek South Parcel	Excavation	.021	yes	200-300'	Freshwater
Campbell Creek South Parcel	Excavation	.063	yes	200-300'	Brackish marsh

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

** 100-Year floodplains are identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at <http://www.fema.gov>.

*** List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

List the total acreage (estimated) of all existing wetlands on the property: **30 acres**

Total area of wetland impact proposed: **0.098 acres**

3. Individually list all intermittent and perennial stream impacts below:

Stream Impact Site Number (indicate on map)	Type of Impact*	Length of Impact (linear feet)	Stream Name**	Average Width of Stream Before Impact	Perennial or Intermittent? (please specify)
Campbell Creek South Parcel	Temp. Fill	25ft	UT to Campbell Creek	2 ft	Intermittent

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain), stabilization activities (cement wall, rip-rap, crib wall, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included.

** Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the USGS at 1-800-358-9616, or online at www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (linear distance in feet) to all streams on site: **25ft (temporary)**

4. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.) below:

Open Water Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Name of Waterbody (if applicable)	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)
N/A				

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: fill, excavation, dredging, flooding, drainage, bulkheads, etc.

5. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): ☐ uplands ☐ stream ☐ wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): N/A

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): N/A

Size of watershed draining to pond: _____ Expected pond surface area: _____

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts.

Proposed impacts are required to create wetland functions, as described in The Campbell Creek Wetland Mitigation Plan. Project will result in the overall preservation of 28.5 acres of wetland and the creation of 5.7 acres of wetland

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to

freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on March 9, 2000, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCWRP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

See attached mitigation plan; Campbell Creek Wetland Mitigation Plan

2. Mitigation may also be made by payment into the North Carolina Wetlands Restoration Program (NCWRP). Please note it is the applicant's responsibility to contact the NCWRP at (919) 733-5208 to determine availability and to request written approval of mitigation prior to submittal of a PCN. For additional information regarding the application process for the NCWRP, check the NCWRP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCWRP is proposed, please check the appropriate box on page three and provide the following information:

Amount of stream mitigation requested (linear feet): N/A
Amount of buffer mitigation requested (square feet): _____
Amount of Riparian wetland mitigation requested (acres): _____
Amount of Non-riparian wetland mitigation requested (acres): _____
Amount of Coastal wetland mitigation requested (acres): _____

IX. Environmental Documentation (required by DWQ)

Does the project involve an expenditure of public (federal/state) funds or the use of public (federal/state) land?

Yes ☒ No ☐

If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?

Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.

Yes ☒ No ☐

If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter.

Yes ☐ No ☒

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify _____)?

Yes ☐ No ☒ If you answered "yes", provide the following information:

Identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1		3	
2		1.5	
Total			

* Zone 1 extends out 30 feet perpendicular from near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Conservation Easement, Riparian Buffer Restoration / Enhancement, Preservation or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0260.

XI. Stormwater (required by DWQ)

Describe impervious acreage (both existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property.

N/A

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.

N/A

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes ☐

No ☒

Is this an after-the-fact permit application?

Yes ☐

No ☒

XIV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).



Applicant/Agent's Signature

5/2/05

Date

(Agent's signature is valid only if an authorization letter from the applicant is provided.)

27611

APPLICATION

(To be completed by all applicants)

1. APPLICANT

a. Landowner:

Name NC Department of TransportationAddress PDEA, PO BOX 25201City Raleigh State NCZip 27611 Day Phone 919-733-3141

Fax _____

b. Authorized Agent:

Name NC Department of TransportationAddress PDEA, PO Box 25201City Raleigh State NCZip 27611 Day Phone 919-733-3141

Fax _____

c. Project name (if any) Campbell Creek

NOTE: Permit will be issued in name of landowner(s), and/or project name.

2. LOCATION OF PROPOSED PROJECT

a. County Beaufortb. City, town, community or landmark
Aurorac. Street address or secondary road number
NC-33d. Is proposed work within city limits or planning jurisdiction? _____ Yes ☒ Noe. Name of body of water nearest project (e.g. river, creek, sound, bay) Campbell Creek

3. DESCRIPTION AND PLANNED USE OF PROPOSED PROJECT

a. List all development activities you propose (e.g. building a home, motel, marina, bulkhead, pier, and excavation and/or filling activities).
Project purpose is to provide
compensatory wetland mitigation as
described in attached
mitigation plan.

b. Is the proposed activity maintenance of an existing project, new work, or both? NOc. Will the project be for public, private or commercial use? Neither

d. Give a brief description of purpose, use, methods of construction and daily operations of proposed project. If more space is needed, please attach additional pages.

The purpose of proposed project is to
create fresh and brackish wetlands as
compensatory mitigation associated with the
construction of Tottorton Rd (SR 1963).
Construction will be completed with a
trackhoe and similar heavy equipment.

4. LAND AND WATER CHARACTERISTICS

- a. Size of entire tract 38.0 acres
- b. Size of individual lot(s) 28.7, 9.3
- c. Approximate elevation of tract above MHW or NWL 1-2.5 ft
- d. Soil type(s) and texture(s) of tract
Currituck muck, augusta muckalee, and dragston
- e. Vegetation on tract loblolly pine, red maple, sweet gum, wax myrtle, sawgrass, cattail, reed, blackneedle rush
- f. Man-made features now on tract None present

- g. What is the CAMA Land Use Plan land classification of the site? *(Consult the local land use plan.)*

<input checked="" type="checkbox"/> Conservation	<input type="checkbox"/> Transitional
<input type="checkbox"/> Developed	<input type="checkbox"/> Community
<input type="checkbox"/> Rural	<input type="checkbox"/> Other

- h. How is the tract zoned by local government?
N/A - not zoned

- i. Is the proposed project consistent with the applicable zoning? n/a Yes ☐ No ☐
(Attach zoning compliance certificate, if applicable)

- j. Has a professional archaeological assessment been done for the tract? ☐ Yes ☒ No
If yes, by whom?

- k. Is the project located in a National Registered Historic District or does it involve a National Register listed or eligible property?
☐ Yes ☒ No

- l. Are there wetlands on the site? ☒ Yes ☐ No
Coastal (marsh) ☒ Other ☐
If yes, has a delineation been conducted? Yes
(Attach documentation, if available)

- m. Describe existing wastewater treatment facilities.
None present

- n. Describe location and type of discharges to waters of the state. (For example, surface runoff, sanitary wastewater, industrial/commercial effluent, "wash down" and residential discharges.)
None

- o. Describe existing drinking water supply source.
None

5. ADDITIONAL INFORMATION

In addition to the completed application form, the following items must be submitted:

- A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties. If the applicant is not claiming to be the owner of said property, then forward a copy of the deed or other instrument under which the owner claims title, plus written permission from the owner to carry out the project.
- An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale in black ink on an 8 1/2" by 11" white paper. (Refer to Coastal Resources Commission Rule 7J.0203 for a detailed description.)

Please note that original drawings are preferred and only high quality copies will be accepted. Blue-line prints or other larger plats are acceptable only if an adequate number of quality copies are provided by applicant. (Contact the U.S. Army Corps of Engineers regarding that agency's use of larger drawings.) A site or location map is a part of plat requirements and it must be sufficiently detailed to guide agency personnel unfamiliar with the area to the

site. Include highway or secondary road (SR) numbers, landmarks, and the like.

- A Stormwater Certification, if one is necessary.
- A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management. Upon signing this form, the applicant further certifies that such notice has been provided.

Name David Austin
Address PO Box 422, Aurora, NC 27806
Phone (252) 322-3470

Name _____
Address _____
Phone _____

Name _____
Address _____
Phone _____

- A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

CAMA Permit # 42-03 for SR 1963

- A check for \$250 made payable to the Department of Environment, Health, and Natural Resources (DEHNR) to cover the costs of processing the application.
- A signed AEC hazard notice for projects in oceanfront and inlet areas.
- A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A - 1 to 10) If the project involves the expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

6. CERTIFICATION AND PERMISSION TO ENTER ON LAND

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to conditions and restrictions contained in the permit.

I certify that to the best of my knowledge, the proposed activity complies with the State of North Carolina's approved Coastal Management Program and will be conducted in a manner consistent with such program.

I certify that I am authorized to grant, and do in fact, grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

This is the 2 day of May, 192005.

Print Name Philip S. Harris

Signature [Signature]
Landowner or Authorized Agent

Please indicate attachments pertaining to your proposed project.

- ☒ DCM MP-2 Excavation and Fill Information
☐ DCM MP-3 Upland Development
☐ DCM MP-4 Structures Information
☒ DCM MP-5 Bridges and Culverts
☐ DCM MP-6 Marina Development

NOTE: Please sign and date each attachment in the space provided at the bottom of each form.

EXCAVATION AND FILL

(Except bridges and culverts)

Attach this form to Joint Application for CAMA Major Permit, Form DCM-MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project.

Describe below the purpose of proposed excavation or fill activities. All values to be given in feet.

	Length	Width	Average Existing Depth	Final Project Depth
Access channel (MLW) or (NWL)				
Canal				
Boat basin				
Boat ramp				
Rock groin				
Rock breakwater				
Other (Excluding shoreline stabilization)				

1. EXCAVATION

- Amount of material to be excavated from below MHW or NWL in cubic yards 317 cubic yards
- Type of material to be excavated organic material and soil
- Does the area to be excavated include coastal wetlands (marsh), submerged aquatic vegetation (SAVs) or other wetlands? ☒ Yes ☐ No
- Highground excavation in cubic yards 12,700

2. DISPOSAL OF EXCAVATED MATERIAL

- Location of disposal area adjacent upland area
- Dimensions of disposal area See attached design plans
- Do you claim title to disposal area?
☒ Yes ☐ No
If no, attach a letter granting permission from the owner.
- Will a disposal area be available for future maintenance? ☒ Yes ☐ No
If yes, where? Yes. It is part of the restoration area.

Form DCM-MP-2

e. Does the disposal area include any coastal wetlands (marsh), SAVs or other wetlands?
_____ Yes ☒ No

f. Does the disposal include any area in the water?
_____ Yes ☒ No

3. SHORELINE STABILIZATION

a. Type of shoreline stabilization
_____ Bulkhead _____ Riprap

b. Length _____

c. Average distance waterward of MHW or NWL

d. Maximum distance waterward of MHW or NWL

e. Shoreline erosion during preceding 12 months

(Source of information) _____

f. Type of bulkhead or riprap material _____

g. Amount of fill in cubic yards to be placed below water level

(1) Riprap _____

(2) Bulkhead backfill _____

h. Type of fill material _____

i. Source of fill material _____

4. OTHER FILL ACTIVITIES

(Excluding Shoreline Stabilization)

a. Will fill material be brought to site?
_____ Yes ☒ No

If yes,

(1) Amount of material to be placed in the water _____

(2) Dimensions of fill area _____

(3) Purpose of fill _____

b. Will fill material be placed in coastal wetlands (marsh), SAVs or other wetlands?

_____ Yes ☒ No

If yes,

(1) Dimensions of fill area _____

(2) Purpose of fill _____

5. GENERAL

a. How will excavated or fill material be kept on site and erosion controlled? _____

An erosion control plan has been prepared that includes use of a turbidity curtain. See attached design sheets for long-term site restoration plan

b. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?
_____ Trackhoe

c. Will wetlands be crossed in transporting equipment to project site? _____ Yes ☒ No

If yes, explain steps that will be taken to lessen environmental impacts. _____

NCDOT

Applicant or Project Name

Reps/SE

Signature

5/2/05

Date

BRIDGES AND CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM-MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project.

1. BRIDGES

- a. Public ____ Private ____
- b. Type of bridge (construction material)

- c. Water body to be crossed by bridge

- d. Water depth at the proposed crossing at MLW or NWL _____
- e. Will proposed bridge replace an existing bridge?
____ Yes ____ No
If yes,
(1) Length of existing bridge _____
(2) Width of existing bridge _____
(3) Navigation clearance underneath existing bridge _____
(4) Will all, or a part of, the existing bridge be removed? (Explain) _____

- f. Will proposed bridge replace an existing culvert(s)?
____ Yes ____ No
If yes,
(1) Length of existing culvert _____
(2) Width of existing culvert _____
(3) Height of the top of the existing culvert above the MHW or NWL _____

(4) Will all, or a part of, the existing culvert be removed? (Explain) _____

- g. Length of proposed bridge _____
- h. Width of proposed bridge _____
- i. Height of proposed bridge above wetlands

- j. Will the proposed bridge affect existing water flow?
____ Yes ____ No
If yes, explain _____

- k. Navigation clearance underneath proposed bridge

- l. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ____ Yes ____ No
If yes, explain _____

- m. Will the proposed bridge cross wetlands containing no navigable waters? ____ Yes ____ No
If yes, explain _____

- n. Have you contacted the U. S. Coast Guard concerning their approval?
____ Yes ____ No
If yes, please provide record of their action.

2. CULVERTS

- a. Water body in which culvert is to be placed
unnamed tributary to Cambell Creek
- b. Number of culverts proposed 1
- c. Type of culvert (construction material, style)
@ 24" corrugated aluminum pipe
- d. Will proposed culvert replace an existing bridge?
Yes X No
If yes,
(1) Length of existing bridge _____
(2) Width of existing bridge _____
(3) Navigation clearance underneath existing bridge _____
(4) Will all, or a part of, the existing bridge be removed? (Explain) _____

- e. Will proposed culvert replace an existing culvert?
Yes X No
If yes,
(1) Length of existing culvert _____
(2) Width of existing culvert _____
(3) Height of the top of the existing culvert above the MHW or NWL _____
(4) Will all, or a part of, the existing culvert be removed? (Explain) _____

- f. Length of proposed culvert 25ft
- g. Width of proposed culvert 2 ft
- h. Height of the top of the proposed culvert above the MHW or NWL 1.4 ft above MHW
- i. Will the proposed culvert affect existing water flow?
Yes X No
If yes, explain _____

- j. Will the proposed culvert affect existing navigation potential? Yes X No
If yes, explain _____

3. EXCAVATION AND FILL

- a. Will the placement of the proposed bridge or culvert require any excavation below the MHW or NWL?
Yes X No
If yes,
(1) Length of area to be excavated _____
(2) Width of area to be excavated _____
(3) Depth of area to be excavated _____
(4) Amount of material to be excavated in cubic yards _____
- b. Will the placement of the proposed bridge or culvert require any excavation within:
Coastal Wetlands SAVs Other Wetlands
If yes,
(1) Length of area to be excavated _____
(2) Width of area to be excavated _____
(3) Amount of material to be excavated in cubic yards _____
- c. Will the placement of the proposed bridge or culvert require any highground excavation?
Yes X No
If yes,
(1) Length of area to be excavated _____
(2) Width of area to be excavated _____
(3) Amount of material to be excavated in cubic yards _____
- d. If the placement of the bridge or culvert involves any excavation, please complete the following:
(1) Location of the spoil disposal area _____
(2) Dimensions of spoil disposal area _____
(3) Do you claim title to the disposal area?
Yes No
If no, attach a letter granting permission from the owner.

Form DCM-MP-5

- (4) Will the disposal area be available for future maintenance? ☐ Yes ☐ No
- (5) Does the disposal area include any coastal wetlands (marsh), SAVs, or other wetlands? ☐ Yes ☐ No
If yes, give dimensions if different from (2) above. _____
- (6) Does the disposal area include any area below the MHW or NWL? ☐ Yes ☐ No
If yes, give dimension if different from No. 2 above. _____
- e. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed below MHW or NWL? ☐ Yes ☐ No
If yes,
(1) Length of area to be filled _____
(2) Width of area to be filled _____
(3) Purpose of fill _____
- f. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed within: ☐ Coastal Wetlands ☐ SAVs ☐ Other Wetlands
If yes,
(1) Length of area to be filled _____
(2) Width of area to be filled _____
(3) Purpose of fill _____
- g. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed on highground? ☐ Yes ☒ No
If yes,
(1) Length of area to be filled _____
(2) Width of area to be filled _____
(3) Purpose of fill _____
- b. Will the proposed project require the relocation of any existing utility lines? ☐ Yes ☒ No
If yes, explain in detail _____
- c. Will the proposed project require the construction of any temporary detour structures? ☐ Yes ☒ No
If yes, explain in detail _____
- d. Will the proposed project require any work channels? ☒ Yes ☐ No
If yes, complete Form DCM-MP-2
- e. How will excavated or fill material be kept on site and erosion controlled? NCDOT Sedimentation and Erosion Control Guidelines will be followed
- f. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)? excavators, backhoes, front-end loaders,
- g. Will wetlands be crossed in transporting equipment to project site? ☐ Yes ☒ No
If yes, explain steps that will be taken to lessen environmental impacts. _____
- h. Will the placement of the proposed bridge or culvert require any shoreline stabilization? ☐ Yes ☒ No
If yes, explain in detail _____

4. GENERAL

- a. Will the proposed project involve any mitigation? ☒ Yes ☐ No
If yes, explain in detail The purpose of the project
Is onsite mitigation for impacts to Tetterton Rd.

NCDOT

Applicant or Project Name

Pepp SILI
Signature

5/2/05
Date



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 11, 2005

David Austin
P.O. Box 422
Aurora, NC 27806

Dear Landowner:

The North Carolina Department of Transportation is planning a mitigation site adjacent to Campbell Creek and Pot Gut. The mitigation site will provide compensatory mitigation by creating additional wetlands. This project is within an Area of Environmental Concern, as defined by the North Carolina Division of Coastal Management (DCM), and must be approved by the DCM under provisions of the Coastal Area Management Act (CAMA). One of the prerequisites to this approval is that adjacent riparian landowners be given an opportunity to comment on the proposal. A vicinity map and site drawings are enclosed for your review.

The attached form is submitted to insure that you have an opportunity to comment on the proposal. The work planned is depicted in the attached drawing. If you have no objections to the proposal, please return the form with your response within 10 days to this office. If you do have objections to the project, please forward your comments to:

Mr. Bill Arrington
Division of Coastal Management
Hestron Plaza II
151-B Highway 24
Morehead City, NC 28557

Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "P. S. Harris, III".

Philip S. Harris, III, P.E., Manager
PDEA - Office of Natural Environment

Enclosures

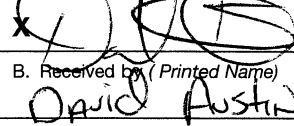
SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

COMPLETE THIS SECTION ON DELIVERY

A. Signature



☐ Agent

☒ Addressee

B. Received by (Printed Name)

David Austin

C. Date of Delivery

9-1-05

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below:

☐ No

3. Service Type

☒ Certified Mail

☐ Express Mail

☐ Registered

☐ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

2. Article Number

(Transfer from service label)

7002 2410 0005 4888 3886

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1035

Project No. 34440.4.1 (R-2510WM)
Property Owner List for Each Site

Parcel No.	Name	Address
① Pot Gut (North)	David Austin	Po. O. Box 422 Aurora, NC 27806
② Campbell Creek (South)	David Austin	Po. O. Box 422 Aurora, NC 27806

NC Dept. of Transportation
Division of Highways
Beaufort County
Project: 34440.4.1 (R-2510WM)
Proposed Mitigation Site Adjacent
to Pot Gut and Campbell Creek
01/31/05

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS				SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size/Type	Fill In Wetlands (ac)	Temp.Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill in SW (Natural) (ac)	Fill in SW (Pond) (ac)	Temp. Fill in SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	Pot Gut (North)				0.014						
2	Campbell Creek (South)				0.084				0.014		
TOTALS:			0.00	0.00	0.098	0.00	0.00	0.00	0.014	0.00	0.00

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action Id. **200411222**

County: **Beaufort**

U.S.G.S. Quad: **-76.6911/35.2938**

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: **Mr. Chris Rivenbark, North Carolina Department of Transportation**

Address: **Project Development and Environmental Analysis, 1548 Mail Service Center**

Raleigh, North Carolina 27699-1548

Telephone No.: **919-733-3141**


Size and location of property (waterbody, road name/number, town, etc.) **Wetlands adjacent to SR-1963 (Tetterton Road), Beaufort County, North Carolina. Campbell Creek Mitigation Site.**

Indicate Which of the Following Apply:

- ☐ Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps.
- ☒ There are wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
 - ☐ We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.
 - ☐ The wetlands on the property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on the property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.
- ☒ The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on **October 28, 2003**. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.

Remarks: _____

Corps Regulatory Official: _____



Date **June 8, 2004**

Expiration Date **June 8, 2009**

R-2510WM

PROJECT SUMMARY

JAMIE LANCASTER, PE
PROJECT MANAGER

PREPARED FOR THE OFFICE OF:

PROJECT DESIGNER

KEVIN L. TWEEDY, PE
PROJECT ENGINEER

PROJECT ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE: _____
P.E.



TYPE OF WORK: WETLAND MITIGATION

EAST OF AURORA, NC ALONG NC 33

[illegible]

GENERAL NOTES

1. Wetland boundaries will be flagged prior to earth disturbing activities in any area.
2. Track mats may be necessary to work in some areas of the site.

BENCHMARKS

CONSERVATION EASEMENT #1

BM # 1 ELEVATION=4.74' N= 569.997 E= 2,691.737
"BENCHMARK" NAIL SET IN 20" PINE TREE

BM # 2 ELEVATION= 2.23' N= 570.084 E= 2,691.165
"BENCHMARK" NAIL SET IN 18" HARDWOOD STUMP

BM # 3 ELEVATION=4.17' N= 570.125 E= 2,690.729
"BENCHMARK" NAIL SET IN 18" CEDAR STUMP

CONSERVATION EASEMENT #2

BM # 4 ELEVATION=4.40' N= 569.230 E= 2,692.260
"BENCHMARK" NAIL SET IN 8" OAK TREE

BM # 5 ELEVATION=2.67' N= 568.725 E= 2,691.131
"BENCHMARK" NAIL SET IN HARDWOOD STUMP

BM # 6 ELEVATION=2.75' N= 568.073 E= 2,690.356
"BENCHMARK" NAIL SET IN 6" PINE TREE

INDEX OF SHEETS

1 TITLE SHEET
1-A SYMBOLOLOGY, INDEX OF SHEETS, & CONSTRUCTION SEQUENCE
1-B NCDOT CONVENTIONAL SYMBOLS
2 DETAILS
3 SUMMARY OF QUANTITIES
4- 6 PLAN SHEETS
7 SITE ACCESS PLAN
8 - 10 REVEGETATION PLAN

ROADWAY STANDARD DRAWINGS

ENGLISH, JANUARY 2002

WORK ZONE VEHICLE ACCESS 1101.05

PORTABLE WORK ZONE SIGNS 1110.02

CONSTRUCTION SEQUENCE

The following construction sequence shall be used during implementation of the plan.

1. The Contractor shall prepare a stabilized construction entrance.
2. The Contractor shall mobilize equipment and prepare the staging area(s) and stockpile area(s) as shown in the plans. If necessary, erect any safety fences, silt fences, or barriers. Stockpile materials that will be needed during the initial stages of construction.
3. Construction traffic shall be restricted to the area denoted as " Limits of Disturbance " on the construction plans.
4. The Contractor shall install silt checks and curtains at locations indicated on the plans.
5. The Contractor shall install sediment fence around the staging area. Sediment fence will also be placed around the temporary stockpile areas as material is stockpiled throughout the construction period.
6. The Contractor will begin excavating wetland areas to design grades. In any areas where excavation depths will exceed 1.0 foot, topsoil shall be stockpiled and placed back over these areas to a depth of eight inches to achieve design grades and create a soil base for vegetation.
7. Once a Phase has been excavated to design grades, plants shall be installed in that section per the direction of the Engineer.
8. Once a Phase is complete the Contractor will apply temporary seeding, permanent seeding, and mulch to any other areas disturbed during construction. Permanent seeding mixtures shall be applied as shown on the vegetation plan. Temporary seeding shall be applied in all areas susceptible to erosion (i.e. disturbed ditch banks, steep slopes, and spoil areas) such that ground cover is established within 30 working days following completion of any phase of grading. Permanent ground cover shall be established for all disturbed areas within 15 working days or 30 calendar days (whichever is shorter) following completion of construction.
9. All areas should be seeded and mulched before leaving the project site. Remove any temporary erosion control devices.
10. The Contractor shall insure that the site is free of trash and leftover materials prior to demobilization of equipment from the site.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUCK ENGINEERING
8000 Regency Parkway Suite 200
Cary, North Carolina 27511
Phone: 919-453-5488
Fax: 919-453-5490

PROJECT REFERENCE NO. **R-2510 WM**
PROJECT ENGINEER **I-A**
SHEET NO.

CONVENTIONAL SYMBOLS

*S.U.E. = SUBSURFACE UTILITY ENGINEER

ROADS & RELATED ITEMS

Edge of Pavement	—
Curb	—
Prop. Slope Stakes Cut	—
Prop. Slope Stakes Fill	—
Prop. Woven Wire Fence	—
Prop. Chain Link Fence	—
Prop. Barbed Wire Fence	—
Prop. Wheelchair Ramp	—
Curb Cut for Future Wheelchair Ramp	—
Exist. Guardrail	—
Prop. Guardrail	—
Equality Symbol	—
Pavement Removal	—
RIGHT OF WAY	—
Baseline Control Point	—
Existing Right of Way Marker	—
Exist. Right of Way Line w/Marker	—
Prop. Right of Way Line with Proposed RW Marker (Iron Pin & Cap)	—
Prop. Right of Way Line with Proposed (Concrete or Granite) RW Marker	—
Exist. Control of Access Line	—
Prop. Control of Access Line	—
Exist. Easement Line	—
Prop. Temp. Construction Easement Line	—
Prop. Temp. Drainage Easement Line	—
Prop. Perm. Drainage Easement Line	—
HYDROLOGY	—
Stream or Body of Water	—
River Basin Buffer	—
Flow Arrow	—
Disappearing Stream	—
Spring	—
Swamp Marsh	—
Shoreline	—
Falls, Rapids	—
Prop Lateral, Tail, Head Ditches	—
STRUCTURES	—
MAJOR	—
Bridge, Tunnel, or Box Culvert	—
and End Wall	—

UTILITIES

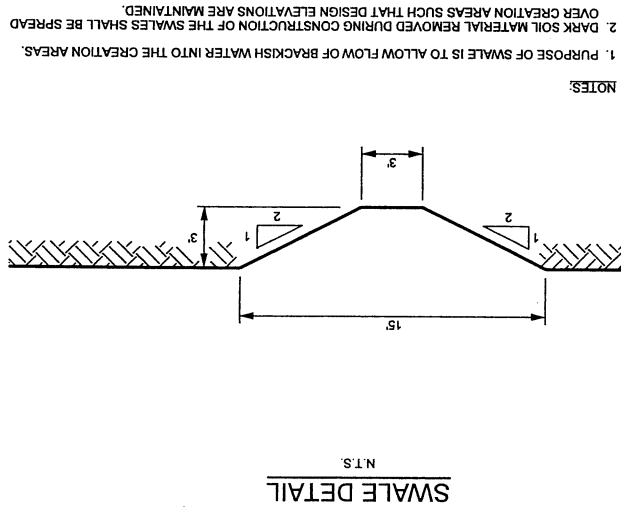
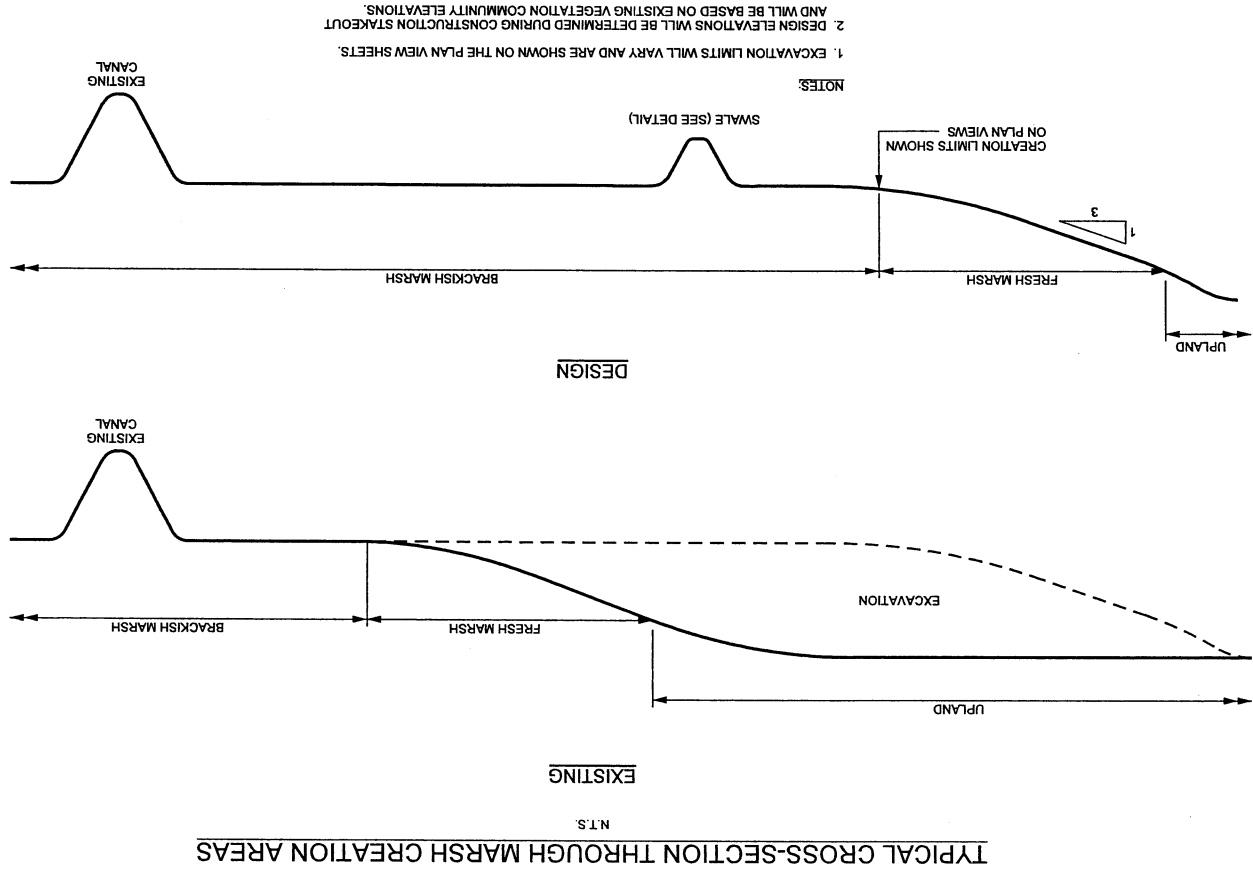
MINOR	—
Head & End Wall	—
Pipe Culvert	—
Footbridge	—
Drainage Boxes	—
Paved Ditch Gutter	—
UTILITIES	—
Exist. Pole	—
Prop. Power Pole	—
Exist. Telephone Pole	—
Prop. Telephone Pole	—
Exist. Joint Use Pole	—
Prop. Joint Use Pole	—
Telephone Pedestal	—
UG Telephone Cable Hand Hold	—
Cable TV Pedestal	—
UG TV Cable Hand Hold	—
UG Power Cable Hand Hold	—
Hydrant	—
Satellite Dish	—
Exist. Water Valve	—
Sewer Clean Out	—
Power Manhole	—
Telephone Booth	—
Cellular Telephone Tower	—
Water Manhole	—
Light Pole	—
H-Frame Pole	—
Power Line Tower	—
Pole with Base	—
Gas Valve	—
Gas Meter	—
Telephone Manhole	—
Power Transformer	—
Sanitary Sewer Manhole	—
Storm Sewer Manhole	—
Tank; Water, Gas, Oil	—
Water Tank With Legs	—
Traffic Signal Junction Box	—
Fiber Optic Splice Box	—
Television or Radio Tower	—
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	—

BOUNDARIES & PROPERTIES

Recorded Water Line	—
Designated Water Line (S.U.E.*)	—
Sanitary Sewer	—
Recorded Sanitary Sewer Force Main	—
Designated Sanitary Sewer Force Main (S.U.E.*)	—
Recorded Gas Line	—
Designated Gas Line (S.U.E.*)	—
Storm Sewer	—
Recorded Power Line	—
Designated Power Line (S.U.E.*)	—
Recorded Telephone Cable	—
Designated Telephone Cable (S.U.E.*)	—
Recorded Telephone Cable	—
Designated Television Cable (S.U.E.*)	—
Recorded Fiber Optics Cable	—
Designated Fiber Optics Cable (S.U.E.*)	—
Exist. Water Meter	—
UG Test Hole (S.U.E.*)	—
Abandoned According to UG Record	—
End of Information	—
BOUNDARIES & PROPERTIES	—
State Line	—
County Line	—
Township Line	—
City Line	—
Reservation Line	—
Property Line	—
Property Line Symbol	—
Exist. Iron Pin	—
Property Corner	—
Property Monument	—
Property Number	—
Parcel Number	—
Fence Line	—
Existing Wetland Boundaries	—
High Quality Wetland Boundary	—
Medium Quality Wetland Boundaries	—
Low Quality Wetland Boundaries	—
Proposed Wetland Boundaries	—
Existing Endangered Animal Boundaries	—
Existing Endangered Plant Boundaries	—

TOPOGRAPHY

Buildings	—
Foundations	—
Area Outline	—
Gate	—
Gas Pump Vent or UG Tank Cap	—
Church	—
School	—
Park	—
Cemetery	—
Dam	—
Sign	—
Well	—
Small Mine	—
Swimming Pool	—
TOPOGRAPHY	—
Loose Surface	—
Hard Surface	—
Change in Road Surface	—
Curb	—
Right of Way Symbol	—
Guard Post	—
Paved Walk	—
Bridge	—
Box Culvert or Tunnel	—
Ferry	—
Culvert	—
Footbridge	—
Trail, Footpath	—
Light House	—
Single Tree	—
Single Shrub	—
Hedge	—
Woods Line	—
Orchard	—
Vineyard	—
RAILROADS	—
Standard Gauge	—
RR Signal Milepost	—
Switch	—



PROJECT REFERENCE NO.	
R-2510 WM	
PROJECT ENGINEER	
2	
SHEET NO.	
2	
DO NOT USE FOR CONSTRUCTION	
PRELIMINARY PLANS	
BUCK ENGINEERING	
8000 Regency Parkway Suite 200 Cay, North Carolina 27511 Phone: 919-463-5488 Fax: 919-463-5490	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

Item	Description	Quantity	Units
C	Mobilization/ Demobilization	1	LS
E	Temporary Silt Fence		LF
E	Turbidity Curtain		SY
F	Seeding and Mulching		Ac
G	Grading	1	LS
H	Stone, Class A	75	TON
J	Nonwoven Filter Fabric, Type II	200	SY

QUANTITIES

IN CUBIC YARDS				
LINE	TOTAL CUT	FILL	TOTAL BORROW	TOTAL WASTE
Northern Property	4172	0		
Northern Property - Swale	113	0		
Southern Property - A	2472	5		
Southern Property - B	3820	55		
Southern Property - Swales	2061	0		
TOTAL	12638	60		
SHRINKAGE FACTOR 20%	12			
GRAND TOTAL	12638	72		
SAY	12700	100		12600

EARTHWORK SUMMARY

PROJECT REFERENCE NO.
H-2510 WM

SHEET NO.
3

PROJECT ENGINEER

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

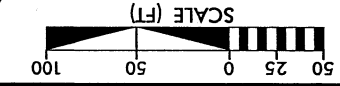
BUCK ENGINEERING

8000 Regency Parkway Suite 200
Cary, North Carolina 27511
Phone: 919-483-5488
Fax: 919-483-5480

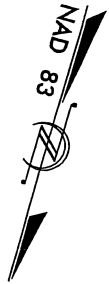
2/1/2005
C:\Users\B\Design\Plans\R2510\WM.FDEA.PSH.04.dgn

2/26/03

NOTE:
DESIGN ELEVATIONS FOR CREATION AREAS WILL BE BASED ON
EXISTING WETLAND COMMUNITIES AND WILL BE DETERMINED
DURING CONSTRUCTION SURVEY.



GRADING PLAN
NORTHERN PROPERTY

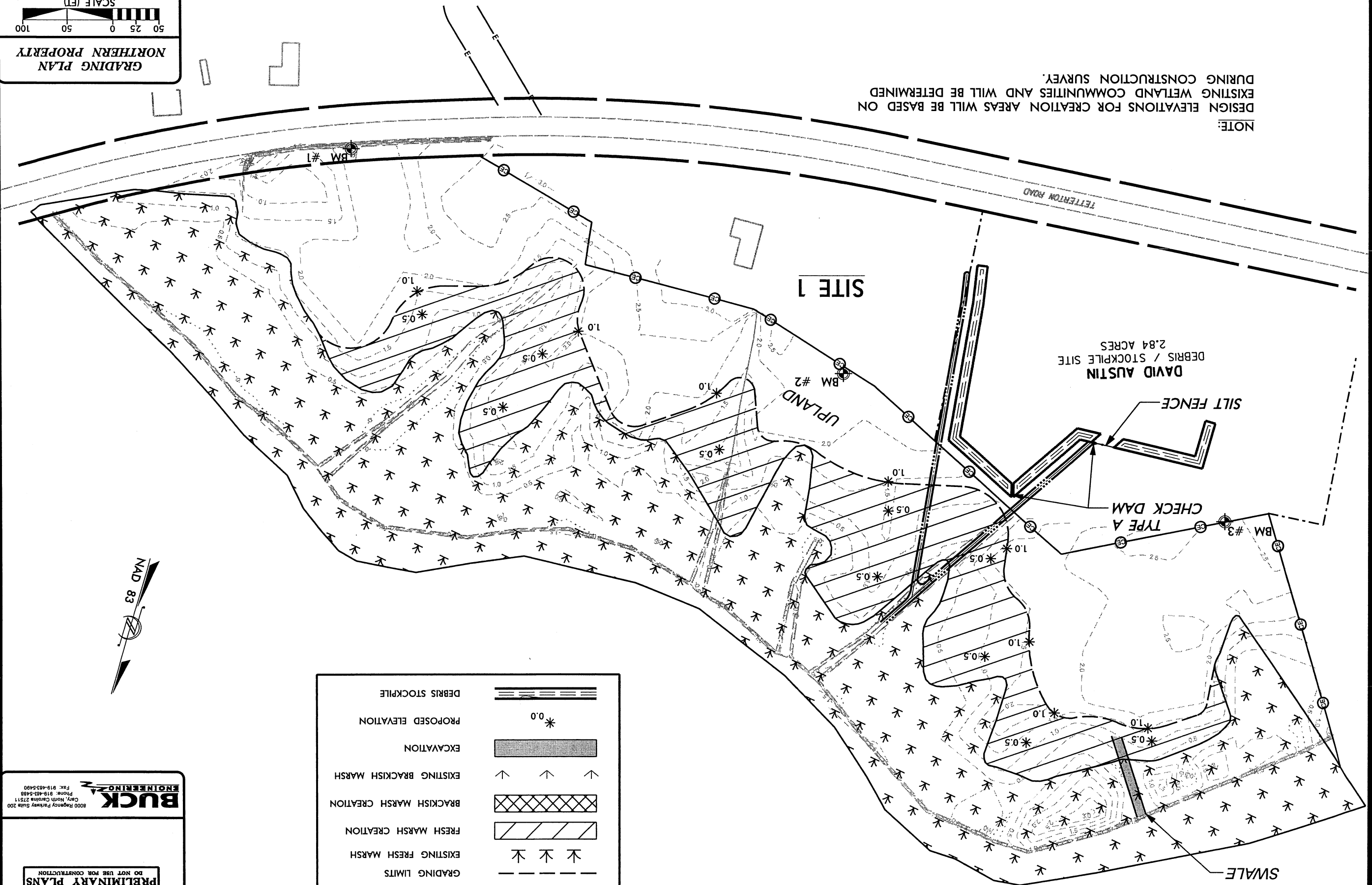


EXISTING CONTOUR	1.0
GRADING LIMITS	---
EXISTING FRESH MARSH	↑ ↑ ↑
FRESH MARSH CREATION	///
BRACKISH MARSH CREATION	XXXX
EXISTING BRACKISH MARSH	↑ ↑ ↑
EXCAVATION	███
PROPOSED ELEVATION	* 0.0
DEBRIS STOCKPILE	===

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Cary, North Carolina 27511
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Fax: 919-483-5480

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO. **R-2510 WM**
SHEET NO. **4**
PROJECT ENGINEER



NOTE:
DESIGN ELEVATIONS FOR CREATION AREAS WILL BE BASED ON
EXISTING WETLAND COMMUNITIES AND WILL BE DETERMINED
DURING CONSTRUCTION SURVEY.

SITE 2

MATCHLINE SHEET 6

EXISTING CONTOUR	---	1.0
GRADING LIMITS	---	
EXISTING FRESH MARSH	↑ ↑ ↑	
FRESH MARSH CREATION	▨	
BRACKISH MARSH CREATION	▩	
EXISTING BRACKISH MARSH	↑ ↑ ↑	
EXCAVATION	▨	
PROPOSED ELEVATION	*	0.0

Staging Area

TEMPORARY
CONSTRUCTION
EASEMENT

24" Aluminum Pipe

PROPOSED
CONSTRUCTION
ENTRANCE

BM #6

SWALE

BRACKISH
FLOW

BRACKISH
FLOW

UPLAND



GRADING PLAN
SOUTHERN PROPERTY
WEST

BUCK
ENGINEERING
8000 Redwood Parkway Suite 200
Cary, North Carolina 27511
Phone: 919-483-3488
Fax: 919-483-4480

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT ENGINEER

R-2510 WM

PROJECT REFERENCE NO.

SHEET NO.

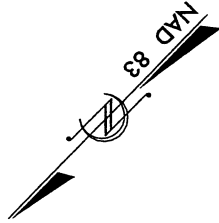
5

MATCHLINE SHEET 5

SITE 2

NOTE:
DESIGN ELEVATIONS FOR CREATION AREAS WILL BE BASED ON
EXISTING WETLAND COMMUNITIES AND WILL BE DETERMINED
DURING CONSTRUCTION SURVEY.

EXISTING CONTOUR	---
GRADING LIMITS	---
EXISTING FRESH MARSH	↑ ↑ ↑
FRESH MARSH CREATION	///
BRACKISH MARSH CREATION	XXX
EXISTING BRACKISH MARSH	↑ ↑ ↑
EXCAVATION	■
PROPOSED ELEVATION	* 0.0



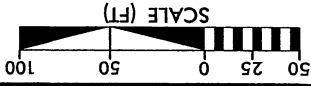
TEMPORARY
CONSTRUCTION
EASEMENT

SWALE
PROPOSED
CONSTRUCTION
ENTRANCE

UPLAND

BRACKISH
FLOW

BRACKISH
FLOW

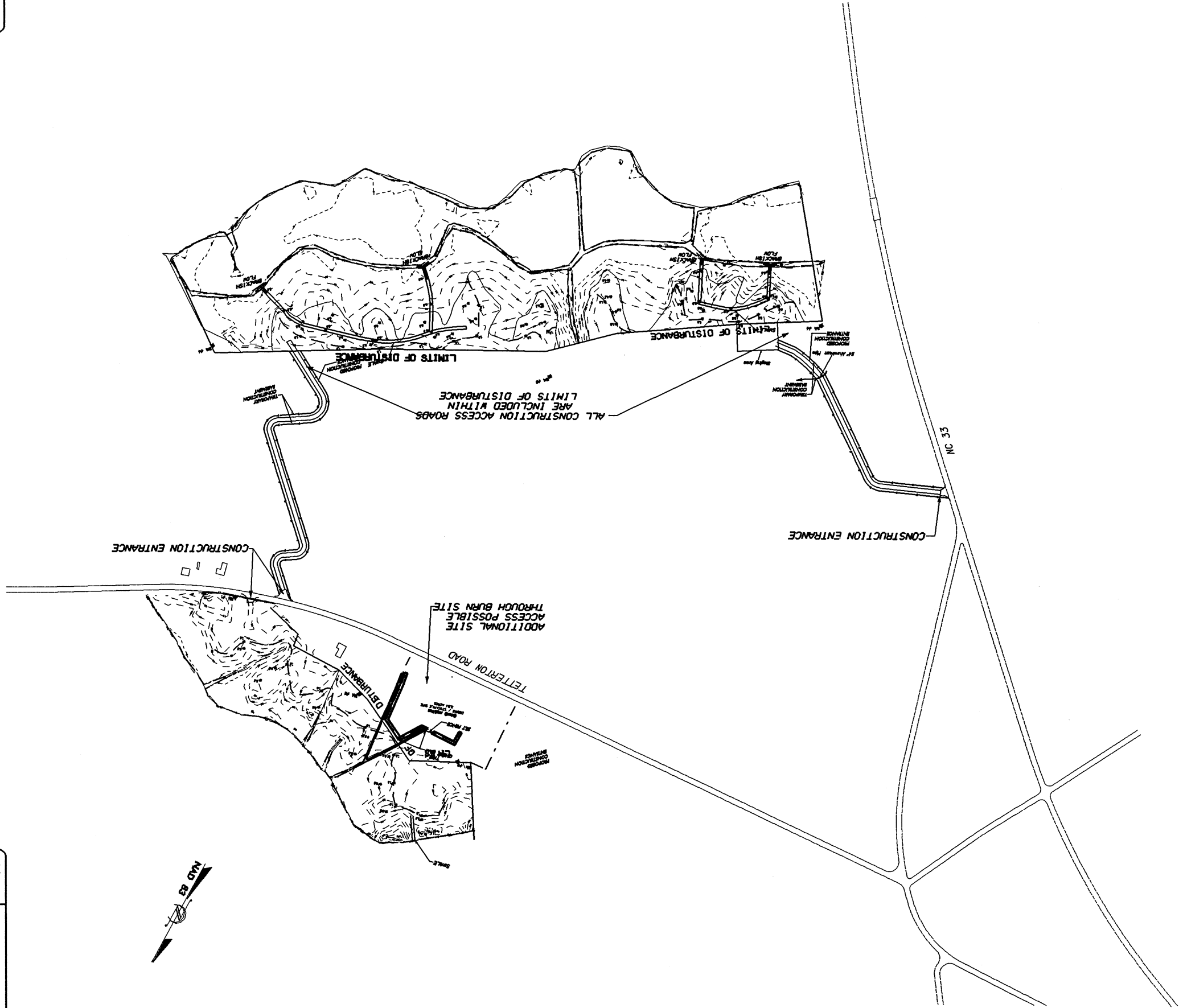


GRADING PLAN
SOUTHERN PROPERTY
EAST

BUCK ENGINEERING
8000 Regency Parkway Suite 200
Cary, North Carolina 27511
Phone: 919-463-4568
Fax: 919-463-6493

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO. **R-2510 WM**
SHEET NO. **6**
PROJECT ENGINEER



SITE ACCESS PLAN

PROJECT REFERENCE NO. R-2510 WM	
PROJECT ENGINEER	
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	
BUCK ENGINEERING 8000 Regency Parkway Suite 200 Cary, North Carolina 27511 Phone: 919-463-3488 Fax: 919-463-3480	

PLANTING LIMITS

UPLAND FOREST

FRESH MARSH

HERBACEOUS WETLAND PLANTINGS

REVEGETATION PLAN

NORTHERN PROPERTY

SCALE (FT)

100

50

0

25

50

Water Oak	<i>Quercus nigra</i>
Laurel Oak	<i>Quercus laurifolia</i>
Willow Oak	<i>Quercus phellos</i>

COMMON NAME SCIENTIFIC NAME

Sawgrass	<i>Cladium mariscus ssp. jamaicense</i>
----------	---

COMMON NAME SCIENTIFIC NAME

VEGETATION SELECTION

FRESH MARSH

UPLAND FOREST



PROJECT ENGINEER

PROJECT REFERENCE NO.

SHEET NO.

8

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

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Phone: 919-483-5488
Fax: 919-483-5490

VEGETATION SELECTION

FRESH MARSH	
COMMON NAME	SCIENTIFIC NAME
Sawgrass	<i>Cladium mariscus ssp. jamaicense</i>
BRACKISH MARSH	
COMMON NAME	SCIENTIFIC NAME
Black Needlerush	<i>Juncus roemerianus</i>
Sawgrass	<i>Cladium mariscus ssp. jamaicense</i>
UPLAND FOREST	
COMMON NAME	SCIENTIFIC NAME
Water Oak	<i>Quercus nigra</i>
Laurel Oak	<i>Quercus laurifolia</i>
Willow Oak	<i>Quercus phellos</i>

Black Needlerush	<i>Juncus roemerianus</i>
Sawgrass	<i>Cladium mariscus ssp. jamaicense</i>

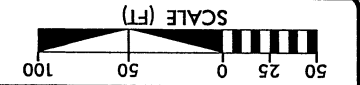
Water Oak	<i>Quercus nigra</i>
Laurel Oak	<i>Quercus laurifolia</i>
Willow Oak	<i>Quercus phellos</i>

PLANTING LIMITS	—
UPLAND FOREST	☼ ☼ ☼
FRESH MARSH	
BRACKISH MARSH	
HERBACEOUS WETLAND PLANTINGS	
HERBACEOUS WETLAND PLANTINGS	



PLANTING LIMITS	—
UPLAND FOREST	☼ ☼ ☼
FRESH MARSH	
HERBACEOUS WETLAND PLANTINGS	
BRACKISH MARCH	
HERBACEOUS WETLAND PLANTINGS	

MATCHLINE SHEET 5



REVEGETATION PLAN
SOUTHERN PROPERTY
EAST



Black Needlerush	<i>Juncus roemerianus</i>
Sawgrass	<i>Cladium mariscus ssp. jamaicense</i>

COMMON NAME SCIENTIFIC NAME

BRACKISH MARSH

Sawgrass	<i>Cladium mariscus ssp. jamaicense</i>
----------	---

COMMON NAME SCIENTIFIC NAME

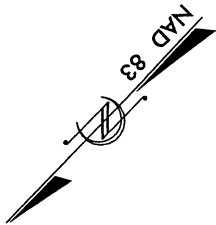
FRESH MARSH

Water Oak	<i>Quercus nigra</i>
Laurel Oak	<i>Quercus laurifolia</i>
Willow Oak	<i>Quercus phellos</i>

COMMON NAME SCIENTIFIC NAME

UPLAND FOREST

VEGETATION SELECTION



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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT ENGINEER

PROJECT REFERENCE NO. **R-2510 WM**
SHEET NO. **10**

CAMPBELL CREEK WETLAND MITIGATION PLAN

Beaufort County, North Carolina

**TIP Project No. R-2510WM
Consulting Project No. 00-BU-11**

**North Carolina Department of Transportation
Project Development and Environmental Analysis Branch**



MAY 2003

CAMPBELL CREEK WETLAND MITIGATION PLAN

Beaufort County, North Carolina

May 2003

Prepared for:

North Carolina Department of Transportation



Prepared by:



8000 Regency Parkway
Suite 200
Cary, North Carolina 27511
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www.buckengineering.com

Doug Smith
Project Manager

William A. Harman
Principal-In-Charge

Executive Summary

The Campbell Creek Wetland Mitigation Project is to provide compensatory mitigation in the Tar-Pamlico River Basin in North Carolina. The project is comprised of two properties totaling 38.0 acres. One property is adjacent to Campbell Creek (approximately 28.7 acres) and the other property is adjacent to Pot Gut (approximately 9.3 acres). The project site is located approximately seven miles east of Aurora in Beaufort County.

This plan identifies 4.1 acres of wetland creation, 26.8 acres of wetland preservation and 7.1 acres of upland preservation. Tasks to be completed for mitigation include: excavation of existing upland areas to elevations that intercept surface and ground water hydrology, planting of the excavated areas with appropriate wetlands species, and conveyance of the site to a third party for long-term monitoring and maintenance. Conservation easements on the project properties are currently being negotiated.

Approximately 2.3 acres of Tidal Freshwater Marsh will be created on the southern property. An additional 1.8 acres of Tidal Freshwater Marsh will be created on the northern property. Species within the created communities will include sawgrass (*Cladium mariscus* ssp. *jamaicense*), narrow-leaf cattail (*Typha angustifolia*), and wild rice (*Zizania aquatica*). This community will grade seaward to the Brackish Marsh community.

Monitoring is proposed for two wetland components: hydrology and vegetation. Soils within the mitigation site will be observed qualitatively to monitor their hydric soil indicators. Monitoring of wetland creation efforts will be performed for five years.

NCDOT will maintain ownership of the easements on both the southern property and northern property of the Campbell Creek Mitigation Project site until all mitigation activities are completed and it is determined that the proposed wetland creation activities are successful. Once NCDOT has entered into a formal agreement with an appropriate party, ownership or management of the 38-acre mitigation site can be transferred at any time. Covenants and/or deed restrictions will be implemented to ensure responsible management and protection of the site in perpetuity.

COMMUNITY TYPE	MITIGATION TYPE	ACRES
Estuarine Fringe Loblolly Pine Forest	Preservation	7.1
Tidal Freshwater Marsh	Preservation	7.8
Tidal Freshwater Marsh	Creation	4.1
Brackish Marsh	Preservation	19.0
TOTAL		38.0

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Table 4.2 Plantings Species and Quantities
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1 Introduction

1.1 Project Location

The purpose of the Campbell Creek Wetland Mitigation Project is to provide compensatory mitigation in the Tar-Pamlico River Basin (14-digit Hydrologic Unit Code 03020104060020 and North Carolina Department of Water Quality sub-basin 03-03-07) in North Carolina. The Campbell Creek Wetland Mitigation Project is comprised of two properties. One property is adjacent to Campbell Creek and the other property is adjacent to Pot Gut. The project site is located approximately seven miles east of Aurora in Beaufort County (Figure 1).

The two properties total 38.0 acres in size and lie north and south of State Route 1963 (Tetterton Road). For the purposes of this plan, the portion of the project located north of Tetterton Road is referred to as the “northern property” and the portion located south of Tetterton Road is referred to as the “southern property.” The northern property is approximately 9.3 acres in size and the southern property and is approximately 28.7 acres in size.

1.2 Site Ownership

The 28.7-acre northern property and the 9.3-acre southern property are currently under an option while a permanent conservation easement is being negotiated by NCDOT. Once a point of ingress/egress is determined for the properties the easement will be finalized. The option expires on August 8, 2004.

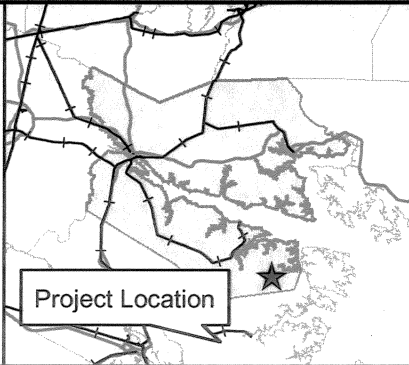
The primary point of contact regarding ownership and stewardship of the Campbell Creek Wetland Mitigation Project site is:

Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
Post Office Box 25201
Raleigh, NC 27611

Contact:
David Alston
(252) 322-3470





Beaufort County



Project Location

Figure 1: Vicinity Map

-  Southern Property
= 28.7 acres
-  Northern Property
= 9.3 acres

2 Goals and Objectives

2.1 Goals

The purpose of the Campbell Creek Wetland Mitigation Project is to provide compensatory mitigation for NCDOT in the Tar-Pamlico River Basin in North Carolina. The goal of this mitigation plan is to identify areas on the project site where wetland and marsh areas can be preserved and/or created. Mitigation efforts will result in an expanded wetland ecosystem providing additional wetland functions such as habitat, flood attenuation, and improved water quality. This plan identifies 4.1 acres of wetland creation, 26.8 acres of wetland preservation, and 7.1 acres of upland preservation. A monitoring and maintenance plan is also provided.

2.2 Objectives

The Campbell Creek Wetland Mitigation Project will provide 4.1 acres of wetland creation and 26.8 acres of wetland preservation. Tasks to complete for mitigation include:

- excavation of existing upland areas to elevations that will support a wetland ecosystem by intercepting surface and ground water,
- conditioning of the soil and planting of the excavated areas with wetlands species appropriate to the eco-region,
- finalization of the conservation easements on the project properties, and
- conveyance of the site to a third party for long-term monitoring and maintenance.

3 Baseline Conditions

3.1 Physiography, Site History, and Land Use

The Campbell Creek Wetland Mitigation Project site is located in the upper central portion of the Coastal Plain Physiographic Province of North Carolina. The site is located at the confluence of Campbell Creek and Pot Gut. Pot Gut discharges into Campbell Creek and Campbell Creek discharges into Goose Creek. Goose Creek flows into the Pamlico Sound.

The Tar-Pamlico River basin is contained entirely within the state of North Carolina. It covers a 5,440-square mile area making it the fourth largest river basin in the state. The basin originates in the upper Piedmont region in Person and Granville counties, west of Interstate 85, and flows southeastward toward the Pamlico Sound. Upstream of the City of Washington, the mainstem is called the Tar River. Below this point, it becomes the Pamlico River. The Tar River is primarily freshwater while the Pamlico River is entirely estuarine. Major tributaries include Fishing Creek, Swift Creek, Cokey Swamp, Tranters Creek, and the Pungo River. The basin contains all or part of three National Wildlife Refuges (Lake Mattamuskeet, Pocosin Lakes and Swanquarter), two State Parks (Goose Creek and Medoc Mountain), and six significant natural heritage areas.

The Tar-Pamlico River basin encompasses all or part of 16 counties and 51 municipalities. Population growth has generally been moderate, but steady overall, although areas around the larger municipalities such as Rocky Mount and Greenville have experienced a sharp rise in the number of people.

The latest land cover data generated from satellite imagery indicates that most of the basin is in forested and wetland areas (54%), followed by cultivated cropland (22%), open water area (20%), pasture and other managed herbaceous areas (3%), and urban areas (1%) (NCDNR, 2000).

The project properties have had little active use with the exception of timber harvesting as they are either existing wetlands or adjacent to wetlands, which restricts many activities. Both properties have been ditched in an effort to improve drainage.

3.2 Soils

3.2.1 Southern property

The southern property of the project site is mapped as two soil series, Currituck muck (Cu) and Augusta (At), by the NRCS Beaufort County Soil Survey. Augusta is described as a non-hydric soil and the Currituck muck is listed as a hydric soil by the NRCS (1995). These soil types were confirmed as accurate by field scientists (biologist and engineer).

However, the location of the interface between the two is somewhat inaccurate on the soil survey maps. The wetland boundary was located in the field using a handheld Garmin® GPS unit that is accurate to 15 meters RMS. This line more accurately depicts the transition from Currituck to Augusta soil types (Figure 2).

3.2.2 Northern property

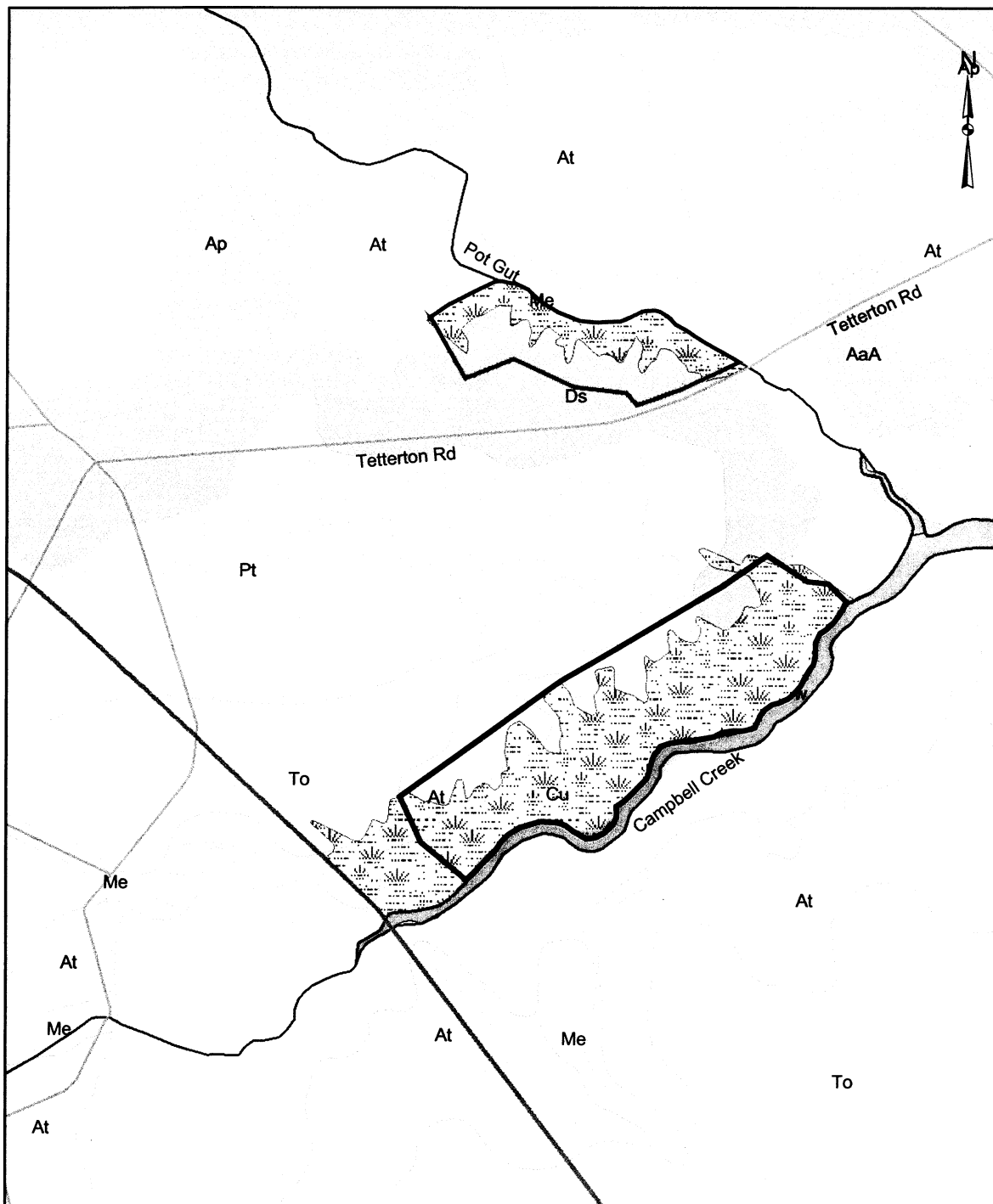
The northern property of the project site is mapped as the Muckalee (Me) and Dragston (Ds) soil series by the NRCS Beaufort County Soil Survey. Muckalee is listed as a hydric soil by the NRCS (1995). Dragston is described as non-hydric. The Muckalee and Dragston soil types were confirmed as accurate by field personnel. However, the extent of the Muckalee soil type is greater than indicated by the soil survey. Field surveys indicate that Muckalee soils extend farther south than mapped and the Dragston soil type is less in its extent. The wetland boundary was located in the field by field personnel and this line more accurately depicts the transition from the Muckalee to the Dragston soil type (Figure 2).

3.3 Water Resources

3.3.1 Southern property

The southern property of the project site is adjacent to Campbell Creek. The drainage area for Campbell Creek to the point it exits the project location is approximately 7.5 square miles (Figure 3). Campbell Creek is part of the Tar River sub-basin within the Tar-Pamlico River Basin (14-digit HUC 03020104060020 and North Carolina Department of Water Quality sub-basin 03-03-07). The Campbell Creek watershed is mostly rural with land use that includes agriculture, forest, and residential dwellings. Campbell Creek is classified by the NCDWQ as Classes C, Sw, and NSW. Class C is defined as freshwater protected for secondary recreation, such as fishing and aquatic life. Class Sw is defined as swamp water, and is characterized by low velocities and other characteristics that make it different from streams. Finally, the NSW classification indicates that the water is nutrient sensitive, implying that the water body is subject to microscopic and macroscopic growth from nutrient inputs.

Hydrology to support marsh creation on the southern property will be derived primarily from Campbell Creek. As higher elevations are excavated, water will intrude from Campbell Creek and provide for flow and tidal influences. Some overland flow from higher elevations may also contribute to the system, in particular through the network of ditches.



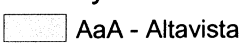
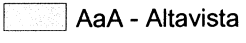
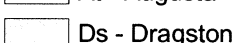
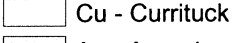
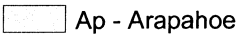
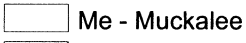

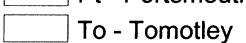



Non-Hydric Soils	
	At - Augusta
	AaA - Altavista
	Ds - Dragston
Hydric Soils	
	Cu - Currituck
	Ap - Arapahoe
	Me - Muckalee
	Pt - Portsmouth
	To - Tomotley

Figure 2: Soils Map

	Northern Property
	Southern Property
	Existing Wetland Boundary

3.3.2 Northern property

The northern property of the project site is adjacent to Pot Gut. The drainage area for Pot Gut is approximately 600 acres (Figure 3). Pot Gut is part of the Tar River sub-basin within the Tar-Pamlico River Basin (14-digit HUC 03020104060020 and NCDWQ sub-basin 03-03-07). The Pot Gut watershed is mostly rural with land use that includes agriculture, forest, and residential dwellings.

Hydrology to support marsh creation on the Northern property will be derived primarily from Pot Gut. As higher elevations are excavated water will intrude from Pot Gut and provide for flow and tidal influences. Some overland flow from higher elevations may also contribute to the system.

3.4 Natural Vegetation Communities

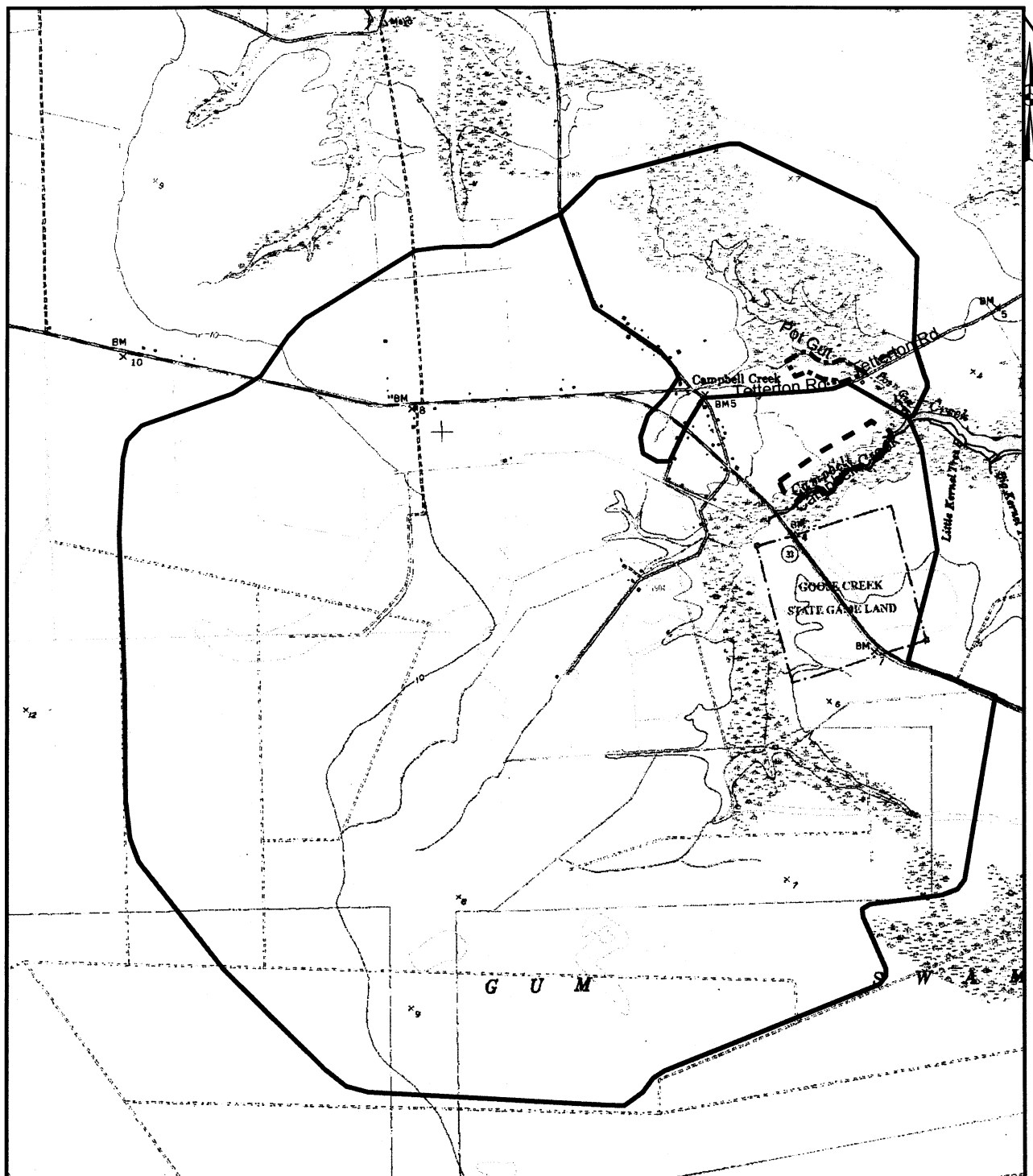
3.4.1 Southern property

Two distinct natural communities were surveyed within the southern property. These communities are the Tidal Freshwater Marsh and Brackish Marsh natural communities as classified by Schafale and Weakley (1990). These two communities comprise the existing wetlands on the site. The upland area adjacent to the wetlands has been altered and is in early succession with dense, young undergrowth of saplings, shrubs, and vines. The upland community was most likely an Estuarine Fringe Loblolly Pine Forest prior to being harvested for timber.

Another community type possibly existed prior to logging of the site. Two small communities were located that resemble the Non-riverine Swamp Forest as classified by Schafale and Weakley. One area was located within the southern property, the other near by. These areas are very small (less than 0.5 acres each) and are supported by only a few cypress trees. However, many cypress stumps can be found and it is evident that the system was once much larger. The presence of these remnant pockets supports the possibility that the Non-riverine Swamp Forest was once much more extensive on the southern property and the community was most likely lost during timber harvesting operations. These four communities are described below (Figure 4).

3.4.1.1 Estuarine Fringe Loblolly Pine Forest

Species in this upland community include loblolly pine saplings (*Pinus taeda*), red maple (*Acer rubrum*), sweet gum (*Liquidambar styraciflua*), red bay (*Persea palustris*), wax myrtle (*Myrica cerifera*), inkberry (*Ilex glabra*), water oak saplings (*Quercus nigra*), giant cane (*Arundinaria gigantea*), greenbrier (*Smilax* spp.), and royal fern (*Osmunda regalis*). Also scattered throughout community were sweet bay (*Magnolia virginiana*), fetterbush (*Lyonia lucida*), loblolly bay (*Gordonia lasianthus*), and sweet gallberry (*Ilex coriacea*). This community appears to have been significantly cleared as part of a timber







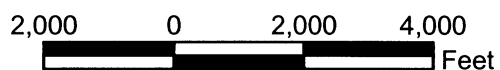
-  Campbell Creek Watershed
= 7.5 mi²
-  Pot Gut Watershed
= 0.94 mi²
-  Southern Property
= 28.7 ac
-  Northern Property
= 9.3 ac

Figure 3: Watershed Boundary Map



harvest and the existing vegetation is relatively young. This community grades downward to the Tidal Freshwater Marsh community.

3.4.1.2 Tidal Freshwater Marsh

Species within this community include sawgrass (*Cladium mariscus* ssp. *jamaicense*), common cattail (*Typha latifolia*), wild rice (*Zizania aquatica*), and reed (*Phragmites australis*). Shrubs scattered through this community included silverling (*Baccharis halimifolia*) and wax myrtle. This community grades toward the Brackish Marsh community. A monoculture of sawgrass forms a distinct transition zone between the Tidal Freshwater Marsh and Brackish Marsh communities within the study area.

3.4.1.3 Brackish Marsh

This community is strongly dominated by black needlerush (*Juncus roemerianus*) and, to a lesser extent, sawgrass. Scattered shrubs within this community include silverling and marsh elder (*Iva frutescens*).

3.4.1.4 Non-riverine Swamp Forest

Two small remnants of this community were found below freshwater drainages. One remnant community is located on the southern property and another is adjacent to the property. Species found in this community include bald cypress (*Taxodium distichum*), red bay, wax myrtle, red cedar (*Juniperus virginiana*), and Tussock sedge (*Carex stricta*). The bald cypresses were covered with epiphytic Spanish moss (*Tillandsia usneoides*). Swamp blackgum (*Nyssa biflora*), typically a major component of this community, was not found in this community within the study area.

It has been determined that approximately 6.1 acres of estuarine fringe loblolly pine forest, 3.6 acres of tidal freshwater marsh, and 19.0 acres of brackish marsh exist on the southern property (Figure 4).

3.4.2 Northern property

The wetland community located on the northern property most closely resembles the Tidal Freshwater Marsh as classified by Schafale and Weakley (1990). This community comprises the existing wetlands on the site. The upland area adjacent to the wetlands has been altered and is in early succession with dense, young growth of saplings, shrubs, and vines. This second community was most likely an Estuarine Fringe Loblolly Pine Forest prior to being harvested for timber and it now appears as a successional stage upland community. These communities are described below.

3.4.2.1 Tidal Freshwater Marsh

Species within this community include sawgrass, common cattail, wild rice, and reed. Shrubs scattered through this community included silverling and wax myrtle.

3.4.2.2 Estuarine Fringe Loblolly Pine Forest

Species in this upland community include loblolly pine saplings, red maple, sweet gum, red bay, wax myrtle, inkberry, water oak saplings, giant cane, greenbrier, and royal fern. Also scattered throughout community are sweet bay, fetterbush, loblolly bay, and sweet gallberry. This community appears to have been significantly cleared as part of a timber harvest and this vegetation is relatively young. This community grades downward to the Tidal Freshwater Marsh community.

It has been determined that approximately 5.1 acres of estuarine fringe loblolly pine forest and 4.2 acres of tidal freshwater marsh exist on the northern property (Figure 4).

3.5 National Wetland Inventory

3.5.1 Southern property

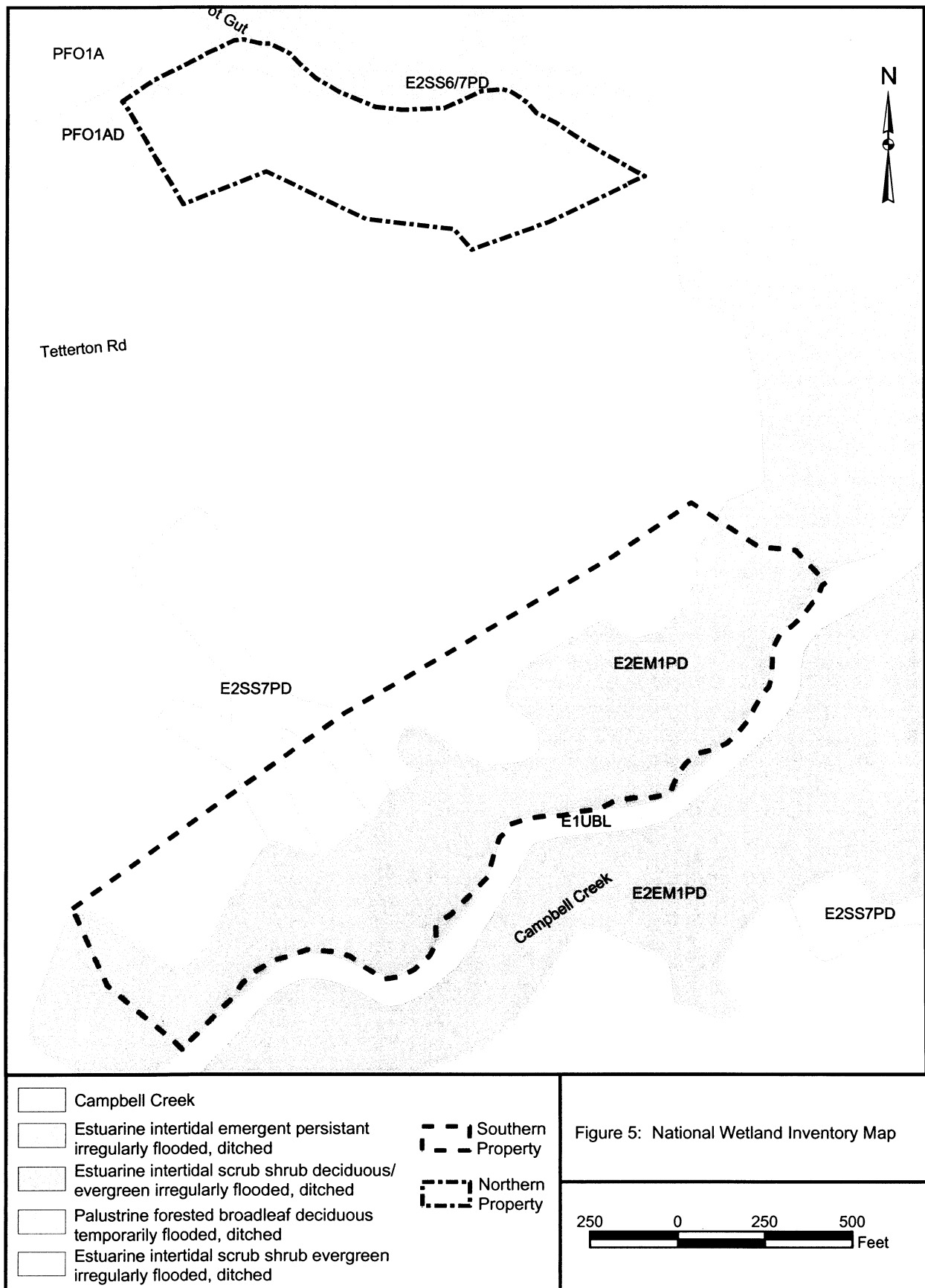
The NWI map identifies two wetland communities on the southern property (Figure 5). The majority of the southern property is a wetland system described as estuarine, intertidal, emergent, persistent, irregularly flooded, partially drained/ditched (E2EM1Pd). This system encompasses both the tidal freshwater marsh and the brackish marsh as described above. Another small portion of the property that corresponds with a drainage way is described as estuarine, intertidal, scrub, scrub, evergreen, irregularly flooded, partially drained/ditched (E2SS7Pd). This area is characterized by a variety of trees and shrubs and is considered transitional wetlands located between estuarine and palustrine areas.

The NWI map identifies Campbell Creek as estuarine, subtidal, unconsolidated bottom (E1UBL). This portion of the site is partial open-water and partial saltmarsh vegetation dominated by saw-grass, cattails, and black needle-rush. This NWI wetland type most closely corresponds with the brackish marsh community as described by Schafale and Weakley, 1990.

3.5.2 Northern property

The National Wetland Inventory map identifies two wetland types on the Northern property (Figure 5). One area adjacent to a tributary to Pot Gut is delineated as palustrine, forested, broadleaf, deciduous, temporarily flooded, partially drained/ditched (PF01A). This area is best described as bottomland hardwood forest.

The area along Pot Gut is delineated as estuarine, intertidal, scrub, shrub, deciduous/evergreen, irregularly flooded, partially drained/ditched (E2SS6/7P). This NWI wetland type most closely corresponds with the tidal freshwater marsh community as described by Schafale and Weakley (1990).



3.6 Threatened and Endangered Species and Federal Species of Concern

A review of threatened and endangered species and Federal species of concern was completed during the feasibility stage of this study. Federally protected species in Beaufort County are listed in Table 3.1 and Federal species of concern for Beaufort County are listed in Table 3.2.

Table 3.1 Federally Protected Species for Beaufort County.		
Scientific Name	Common Name	Status
<i>Trichechus manatus</i>	West Indian Manatee	Endangered
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Threatened
<i>Picoides borealis</i>	Red-cockaded Woodpecker	Endangered
<i>Lepidochelys kempii</i>	Kemp's Ridley Sea Turtle	Endangered
<i>Aeschynomene virginica</i>	Sensitive Joint-vetch	Threatened
<i>Lysimachia asperulifolia</i>	Rough-leaf Loosestrife	Endangered

Note: "Endangered" denotes a species in danger of extinction throughout all or a significant portion of its range. "Threatened" denotes a species likely to become endangered in the foreseeable future throughout all or a significant portion of its range.

Table 3.2 Federal Species of Concern for Beaufort County.			
Scientific Name	Common Name	NC Status	Habitat Present
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat	SC (PT)	No
<i>Ammodramus henslowii</i>	Henslow's Sparrow	SR	No
<i>Rana capito capito</i>	Carolina Gopher Frog	SC (PT)	No
<i>Dionaea muscipula</i>	Venus Flytrap	SC-L	No
<i>Tofieldia glabra</i>	Carolina Asphodel	W1	No

Note:

- SC A **Special Concern** species is one which requires monitoring, but may be taken or collected and sold under regulations adopted under the provisions of Article 25 of Chapter 113 of the General Statutes (animals) and the Plant Protection and Conservation Act (plants).
- SR A **Significantly Rare** species is not listed as "E," "T," or "SC," but which exists in the state in small numbers and has been determined to need monitoring.
- W1 A **Watch Category 1** (Rare, but relatively secure) includes rare species whose status in NC is relatively well known and which appears to be relatively secure at this time.
- PT These species are **proposed** for greater protection under **threatened** species status.
- L The range of the species is **limited** to NC and adjacent states.

It was concluded during the feasibility study that there would be NO EFFECT on any of listed species as a result of the planned wetland mitigation activities with the exception of the Bald Eagle. At the time of the feasibility it was UNRESOLVED whether mitigation activities would impact this Threatened species. Therefore, a more thorough analysis has been completed.

3.6.1 Description and Discussion of the Bald Eagle

Haliaeetus leucocephalus (Bald eagle)

Threatened-Proposed for Delisting

Animal Family: Accipitridae

Federally Listed: March 11, 1967; Proposed for delisting: July 6, 1999

Bald eagles are large raptors, 32-43 inches (81-109 centimeters) long, with a white head, white tail, yellow bill, yellow eyes, and yellow feet. The lower section of the leg has no feathers. Wingspread is about 7 feet (2.1 meters). The characteristic plumage of adults is dark brown to black with young birds completely dark brown. Juveniles have a dark bill, pale markings on the belly, tail, and under the wings and do not develop the white head and tail until 5-6 years old [North Carolina Natural Heritage Program (NHP), 2001].

Bald eagles in the Southeast frequently build their nests in the transition zone between forest and marsh or open water. Nests are cone-shaped, 6-8 feet (1.8-2.4 meters) from top to bottom, and 6 feet (1.8 meters) or more in diameter. They are typically constructed of sticks lined with a combination of leaves, grasses, and Spanish moss. Nests are built in dominant live pines or cypress trees that provide a good view and clear flight path, usually less than 0.5 mile (0.8 kilometer) from open water. Winter roosts are usually in dominant trees, similar to nesting trees, but may be somewhat farther from water. In North Carolina, nest building takes place in December and January, with egg laying (clutch of 1-3 eggs) in February and hatching in March. Bald eagles are opportunistic feeders consuming a variety of living prey and carrion. Up to 80% of their diet is fish, self caught, scavenged, or robbed from osprey. They may also take various small mammals and birds, especially those weakened by injury or disease (NHP, 2001).

3.6.2 Bald Eagle Survey

Field biologists conducted a field survey for bald eagle (*Haliaeetus leucocephalus*) habitat and individuals on January 28, 2003. The survey involved walking in potential habitat areas and scanning the area for nests and individuals.

Biological Conclusion:

May Affect-Not Likely to Adversely Affect

Habitat suitability for the bald eagle is at best marginal near the project area. Pine and cypress trees large enough to support bald eagle nests were not found in the restoration areas and were very limited in areas outside of the restoration areas. The North Carolina Natural Heritage Program (NHP) database of rare species and unique habitats, checked on January 22, 2003, indicates no records of occurrences in the study area. While no bald eagle nests or individuals were observed or recorded in or near the study area, remote areas of potential habitat does exist near the project area. Therefore, a Biological Conclusion of **May Affect-Not Likely to Adversely Affect** has been determined. This determination should not affect the project.

4 Components of the Mitigation Plan

4.1 Project Size

The southern and northern properties were evaluated for wetland creation potential by delineating the existing wetland boundary and determining if there were non-wetland areas adjacent to the wetland boundary that could be used to expand the existing wetland for mitigation credit. The wetland creation boundary was determined by using a GPS unit to locate positions in the field where non-wetland communities, with minimal tree and brush cover and lower topography, exist. A Garmin® GPS handheld unit, accurate to 15 meters RMS, was used. These criteria were used to target landscape positions where wetland creation would be most successful while at the same time minimizing clearing and grading requirements. The project site will be placed under a permanent conservation easement that is currently being negotiated, thereby preserving existing wetlands and marshes as well as adjacent upland positions (Figure 6).

Table 4.1 Mitigation Community Types and Acres.		
COMMUNITY TYPE	MITIGATION TYPE	ACRES
Estuarine Fringe Loblolly Pine Forest	Preservation	7.1
Tidal Freshwater Marsh	Preservation	7.8
Tidal Freshwater Marsh	Creation	4.1
Brackish Marsh	Preservation	19.0

4.2 Creation Component

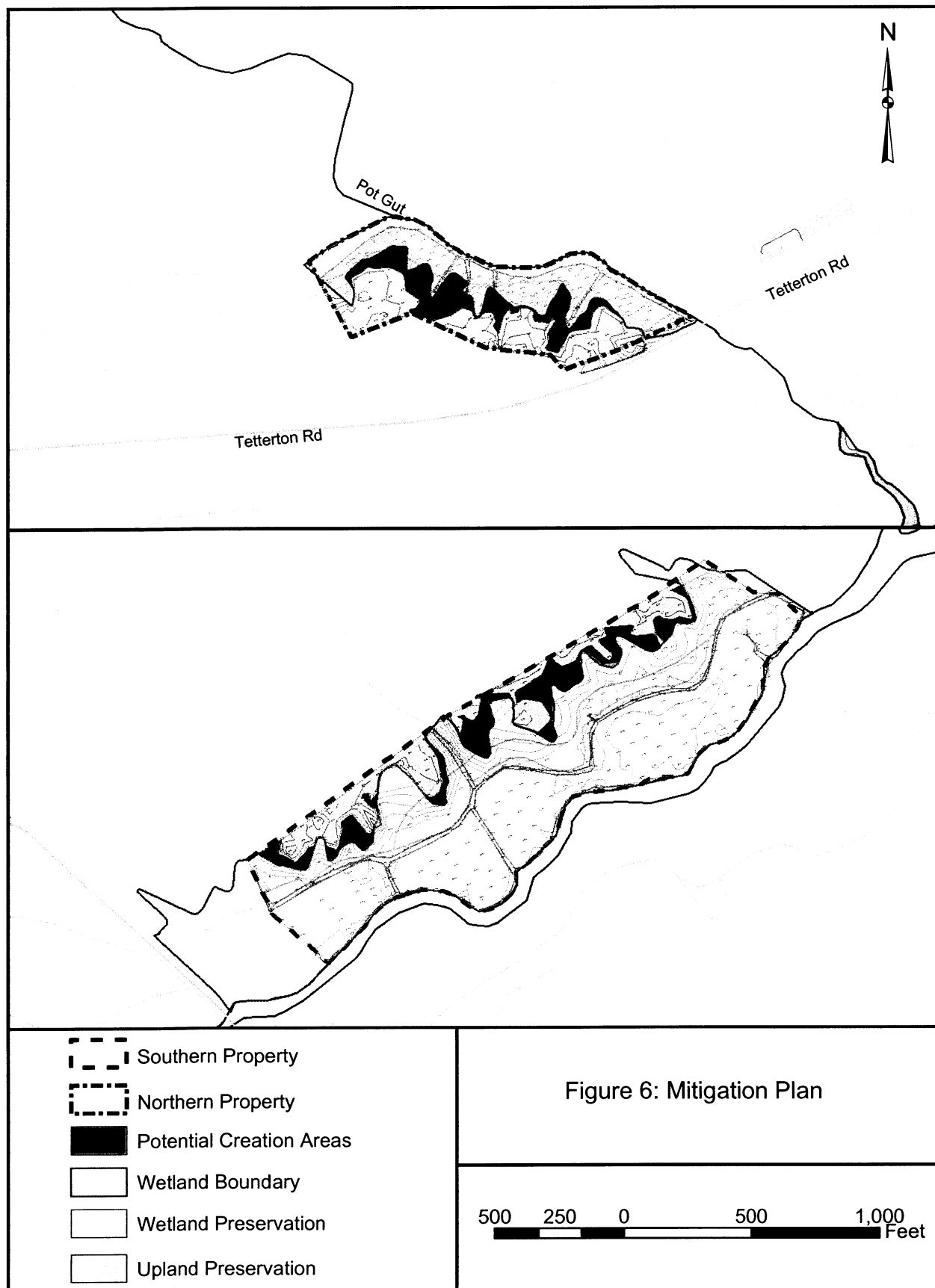
4.2.1 Created Wetlands Classification

Approximately 2.3 acres of Tidal Freshwater Marsh will be created on the southern property. An additional 1.8 acres of Tidal Freshwater Marsh will be created on the northern property. Species within this community will include sawgrass, narrow-leaf cattail, and wild rice. This community will grade seaward to the Brackish Marsh community.

4.2.2 Methods for Wetland Creation

4.2.2.1 Hydrology

Wetlands will be created by clearing the area of existing vegetation and grading the area to the appropriate elevation to intercept site hydrology. A semi-permanently saturated hydrologic regime will be provided for by the adjacent waterways of Pot Gut and



Campbell Creek. Randomized micro-topography will create irregularities in surface elevations (+/- 6 inches) for habitat and vegetative diversification. Field criteria used to determine the presence of semi-permanently saturated hydrologic regime will be saturated conditions within a major portion of the root zone (i.e. within 12 inches) for between 12.5 and 75 percent of the growing season in most years. The hydrologic regime will be monitored with automated groundwater monitoring gauges.

4.2.2.2 Soils

All substrate for the created wetland areas will be in-situ soils. The topsoil shall be excavated and stock piled, the subsoil shall be excavated and removed, and the original topsoil shall be replaced. Target elevations will be primarily based on expected water elevation, as well as existing hydric soil layers. Prior to planting the soil will be tested and, if necessary, amended with fertilizer and lime as needed. Over time Campbell Creek and Pot Gut will contribute detritus through backwater flooding.

4.2.2.3 Vegetation

Created Tidal Freshwater Marsh will be planted with herbaceous plants in the form of bare root stock, container grown tublings and/or plugs. Herbaceous vegetation consisting of the species mix in the table below will be planted on 3 x 3 feet centers (4,840 plants per acre). Species and quantities to be planted are:

Table 4.2 Plantings Species and Quantities			
Common name	Scientific name	Plants per acre	Total
sawgrass (if available)	<i>Cladium mariscus</i> ssp. jamaicense	968	3,970
green arrow-arum	<i>Peltandra virginica</i>	968	3,970
three-square	<i>Scirpus americanus</i>	968	3,970
lanceleaf arrowhead	<i>Sagittaria lancifolia</i>	968	3,970
pickerelweed	<i>Pontederia cordata</i>	968	3,970

4.3 Preservation Component

4.3.1 Classes of Wetlands and Riparian Buffer to be Preserved

This mitigation component entails the development, execution, and recording of appropriate real estate documents that will ensure the preservation of existing wetlands and riparian habitat on the project site in perpetuity (Figure 6). Conservation easements on the project properties are currently being negotiated. The following community types and acreages will be preserved:

Table 4.3 Wetland Classes and Acreages.	
COMMUNITY TYPE	ACRES
Southern property	
Estuarine Fringe Loblolly Pine Forest*	6.1
Tidal Freshwater Marsh	3.6
Brackish Marsh	19.0
Northern property	
Estuarine Fringe Loblolly Pine Forest*	5.1
Tidal Freshwater Marsh	4.2

* A total of 4.1 acres of existing upland will be converted to wetlands leaving 7.1 in preservation.

5 Administration and Operation of the Mitigation Site

5.1 Geographic Service Area

The service area for the Campbell Creek Mitigation site is the Tar River sub-basin within the Tar-Pamlico River Basin (14-digit HUC 03020104060020 and NCDWQ sub-basin 03-03-07). Use of the Campbell Creek Mitigation site for impacts outside of the specified area may be considered by the US Army Corps of Engineers or other environmental regulatory permitting agencies on a case-by-case basis.

5.2 Long Term Management

NCDOT will maintain ownership of the easements on both the southern and northern properties of the Campbell Creek Mitigation Project site until all mitigation activities are completed and it is determined that the proposed wetland creation activities are successful. Once a formal agreement is in place between the NCDOT and an appropriate party, ownership or management of the 38-acre mitigation site can be transferred at any time. Parties that could provide responsible stewardship of the site include non-profit conservation organizations (e.g. The Nature Conservancy), local government (Beaufort County), land trusts, or continued state ownership with state agency management. Covenants and/or deed restrictions will be implemented to ensure responsible management and protection of the site in perpetuity.

5.3 Financial Assurances

NCDOT's wetland mitigation program is funded as part of each roadway construction project. Mitigation funding may be obtained from either state or federal funds. NCDOT is financially supported through state and federal actions as authorized by legislation. This authorization includes a portion of the taxes collected from the sale of gasoline. NCDOT anticipates no difficulty in meeting its obligations for funding of this mitigation project.

5.4 Compensation Ratios

Compensation ratios for debiting will be determined by the US Army Corps of Engineers during the permit application process.

6 Monitoring and Maintenance of the Mitigation Site

6.1 Performance Standards for Determining Success

6.1.1 Reference Wetlands

To assist in developing site-specific performance standards and to serve as a baseline against which progress of the created wetlands can be compared, three transects have been established to serve as reference wetland system transects. Transects pass through the three major community types on the site. Transects allow for the comparison of community type occurrences in relation to one another and in relation to site topography. The data collected were used to determine what types of wetlands can be created on site and provide for target elevations. Reference transects for the mitigation site are located within the project limits (Figure 7).

6.1.2 Performance Standards

The vegetation component of the wetland site will be deemed successful if the following criteria are met.

- At year five, the average of all plots should have a scale value of 5 (75% vegetative cover) consisting of wetland herbaceous species, not including any invasive species.
- A minimum of 70% of the plots shall contain the target (planted) species. Visual observation of plant establishment will be recorded using photo reference points.

6.2 Monitoring and Reporting Protocols

6.2.1 Monitoring Plan

Monitoring is proposed for two wetland components, hydrology and vegetation. Soils within the mitigation site will be observed to monitor, qualitatively, their hydric soil indicators. Monitoring of wetland creation efforts will be performed for five years.

6.2.2 Monitoring of Hydrology

Groundwater monitoring within compensatory mitigation areas and reference wetlands will be accomplished using ten (10) automated groundwater monitoring stations as per the USACE standard methods found in the WRP Technical Notes ERDC TN-WRAP-00-02, July 2000. These automated gauges will record water level data to a depth of 40 inches.






-  Southern Property
-  Northern Property
-  Transect locations

Figure 7: Reference
Transect Locations

To monitor water elevations above the ground surface, five (5) gauges will be mounted to wooden poles above grade with the base of the well at the surface elevation and located in close proximity to groundwater monitoring wells. This will allow recording of water elevations up to 40 inches above the ground surface elevation. Poles will be anchored to ensure stability during times of inundation, flooding, and significant water velocities.

The locations of all wells will be documented using GPS to allow researchers to easily locate the wells for periodic downloading of recorded data. Gauges will be programmed to read at 1-hour intervals with operation throughout the year.

6.2.3 Monitoring of Vegetation

The vegetative success of the wetland site will be determined in accordance with National Marine Fisheries Service Guidelines.

After planting has been completed, an initial evaluation will be performed to verify planting methods and to determine initial species composition and density. Supplemental planting and additional site modification will be implemented at this time, if necessary. Permanent photography stations will be established at selected vantage points to provide a visual record of vegetation development over time.

Monitoring plots will be chosen to provide a representative sample of the site. Vegetation monitoring will consist of fifteen (15) 1m X 1m random plots in the created wetland communities. Vegetation monitoring plots will be correlated with hydrological monitoring sites in most cases to allow for point-source data of hydrologic and vegetation parameters.

6.3 Report Submittals

As-built plans will be submitted within 90 days following completion of construction. The as-built plans will show final site grading and a description of site conditions. The report shall include information regarding the planting process, including species planted, number and distribution of plants planted, and planting densities. The report shall also include the location of monitoring gauges, monitoring locations, and vegetative sampling plots.

Monitoring reports will be submitted to NCDOT annually following each assessment. Reports will include 1) hydrologic data collected from the gauges, 2) reference wetland transect data with a discussion, 3) photo documentation, 4) vegetation sampling data (density, survivability, and percent composition of target species) with a discussion, and

5) discussion and substantiation of problems and proposed recommendations for resolution.

6.4 Maintenance, Contingency and Remedial Actions

In the event that vegetation or hydrology success criteria are not fulfilled, appropriate contingency measures will be implemented. Should the vegetation criteria not be fulfilled, additional plantings will be installed, with a change towards more suitable species if necessary. The control of nuisance species and/or minor grade adjustments may also be necessary. If required, the monitoring period may be extended.

In the event that the hydrologic success criteria are not achieved during the monitoring period, minor grade adjustments may be necessary. Should this not be feasible, mitigation goals and strategies may need to be redefined.

6.5 Final Disposition

Following the monitoring period, fulfillment of the success criteria and final acceptance of the mitigation project by the permitting agencies, management and/or ownership of the 38-acre mitigation site can be transferred at any time. Appropriate third-parties were discussed in section 5.2.

7 References

- North Carolina Department of Environment and Natural Resources, 2000. Tar Pamlico Basinwide Water Quality Plan. Raleigh, NC.
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